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Linking Regional Planning with Project Planning in Support of NEPA

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Linking Regional Planning with Project Planning in Support of NEPA

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Abstract

Linking Regional Planning with Project Planning in Support of NEPA

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The thesis investigates potential methods of linking transportation planning in Texas, principally long range planning, with the environmental clearance process required of the National Environmental Policy Act (NEPA). The purpose of the research is to achieve time and monetary savings by streamlining the NEPA process. These savings result principally by reducing duplicative efforts performed during transportation planning and the NEPA process. To achieve this goal, the thesis reviews the effectiveness of practices and efforts done in Texas and around the country designed to encourage planning documentation that supports the NEPA process. The thesis then assesses the challenges involved with implementing these practices in Texas and makes a series of recommendations designed to be implemented by various agencies in Texas that would provide linkages between transportation planning and the NEPA process.

Table of Contents

List of Tables	viii
List of Figures	ix
Chapter 1: Introduction	1
Motivation.....	1
Research objectives.....	2
Scope limitation	2
Background	3
Texas’ Transportation Planning and Programming Process	4
National Environmental Policy Act	8
Thesis structure	11
Chapter 2: Research Methodology.....	13
Flowchart	13
Task Descriptions.....	14
Chapter 3: Literature Review	18
Introduction.....	18
Background Information	18
Literature Review Organization.....	19
Federal Overview	20
Introduction.....	20
SAFETEA-LU	21
FHWA/FTA Final Rule Integrating Planning and NEPA	24
FHWA’s Planning and Environmental Linkages Program.....	32
State Programs	38
Colorado.....	38
North Carolina	42
Tennessee.....	44
Washington	47

Miscellaneous State Programs	53
Other Literature Sources	53
Conclusions.....	68
Chapter 4: Legal review	70
Introduction.....	70
Background and History of NEPA	70
NEPA Process.....	72
CEQ Guidance on Conducting Specific Elements in NEPA Reviews	74
Purpose and Need	74
Cumulative Effects Analysis.....	75
Categorical Exclusions.....	77
Recent CEQ Guidance	80
Combining Environmental and Planning Documents.....	82
NEPA Case Law	83
Case Law Analysis.....	90
Purpose and Need	93
Administrative Record.....	96
Arbitrary and Capricious Decision Making.....	99
Cumulative Impacts	103
Indirect Impacts	106
Alternatives Analysis	107
Section 4 f Analysis	111
EA or EIS?	115
Categorical Exclusions.....	119
Improper Segmentation.....	121
Standing	123
Reliance on Local Agency Transportation Plan	124
Reasonably Certain to Occur	127
Interrelated Action	128
Climate Change and Greenhouse Gas Analysis.....	129

Criticism of NEPA.....	132
The Supreme Court and Its Potential Impact On NEPA.....	143
Legislative Activity – California Trailblazing.....	147
Texas Legislative Session Changes from 82nd Texas Legislature	150
Chapter 5: Out of state interviews/resource agencies	163
Introduction.....	163
Out of State Interview Findings.....	165
GIS based data sharing tools.....	166
Screening Form tools	168
Rewriting Project Delivery Process and Manuals	169
FHWA’s PEL program	172
Coordination Points	173
Planning and Environmental Staff Integration	175
Informal Initiatives.....	176
Resource Requirements	177
Out of State Interview Conclusions	177
Resource Agency Interview Findings.....	180
Summary of Resource Agency Comments	180
Resource Agency Interview Conclusions	187
Chapter 6: In state interviews	192
Introduction.....	192
In State Interview Findings.....	193
MPO’s.....	193
TxDOT Districts	195
TxDOT Divisions.....	196
In State Interview Conclusions	197
Chapter 7: Resource.....	202
Introduction.....	202
Workshops	203

Workshop Results	204
Workshop Conclusions	219
Chapter 8: Conclusions and Recommendations	220
Conclusions.....	220
Recommendations.....	221
Next Steps	228
Appendix A: Out of State Interview Questions	230
Appendix B: Resource Agency Interview Questions	234
Appendix C: Out of State Individual Interview Summaries	236
Appendix D: In State Interview Questions	257
Appendix E: In State Individual Interview Summaries	258
Appendix F: Workshop Questions.....	283
Appendix G: Workshop Results	294
References.....	304

List of Tables

Table 1: PEL Website Overview	33
Table 2: CEQ Guidance	71
Table 3: NEPA Case Dispositions	84
Table 4: Basis of NEPA Dispositions	85
Table 5: Transportation NEPA Case Law Selected Judgments Since 2000	87
Table 6: List of States Interviewed	165
Table 7: Workshop Results: Purpose and Need STLRP	206
Table 8: Workshop Results: Purpose and Need MTP/RTP	207
Table 9: Workshop Results: Alternatives Analysis SLRTP	209
Table 10: Workshop Results: Alternatives Analysis MTP/RTP	210
Table 11: Workshop Results: Affected Environment SLRTP	211
Table 12: Workshop Results: Affected Environment MTP/RTP	212
Table 13: Workshop Results: Environmental Consequences SLRTP	213
Table 14: Workshop Results: Environmental Consequences MTP/RTP	214
Table 15: Workshop Results: Public Involvement and Coordination SLRTP	215
Table 16: Workshop Results: Public Involvement and Coordination MTP/RTP	216
Table 17: Workshop Results: General Recommendations	217

List of Figures

Figure 1: Key Transportation Planning Documents	5
Figure 2: Flowchart of Research Methodology	14
Figure 3: Early Stakeholder Involvement is Critical	23
Figure 4: The PEL process of linking planning and NEPA.....	35
Figure 5: Planning and NEPA Flowchart	37
Figure 6: Colorado’s Linking Planning and NEPA	41
Figure 7: Proposed Committee Structure under Reinventing NEPA.....	50
Figure 8: Screenshot of the NEPA portion of the Decision Guide	61
Figure 9: Techniques to Link Planning and NEPA Process	69
Figure 10: The NEPA Process	73
Source: AASHTO, NEPA Process	73
Figure 11: NEPA deadlines	155

Chapter 1: Introduction

MOTIVATION

Since the enactment of the National Environmental Protection Act (NEPA) in 1970, sponsors of transportation projects that receive federal money or fall under the purview of the federal government in some other way are required to develop documentation that shows the environmental effects of the project were studied and taken into consideration. The time and effort required to complete the NEPA documentation process has increased significantly since 1970, due to new federal regulations, court rulings, and the increased workload on state and federal agencies. As the time and effort required to perform appropriate NEPA reviews have increased, so has the pressure to “streamline” the process. One such streamlining technique, linking regional and project planning with NEPA, is the focus of this research. The theory behind this linkage is that there are numerous actions performed in planning and during NEPA documentation that overlap or should overlap. Determining where the overlap occurs and how to take advantage of the overlap is the central purpose of this research.

This research was conducted as part of a Texas Department of Transportation (TxDOT) research project, project 0-6701. This project was conducted by the Center for Transportation Research, in partnership with the Texas Transportation Institute and the University of North Texas. The researchers were Carlos Caldas (Center for Transportation Research), Jolanda Prozzi (Texas A&M Transportation Institute), Lisa Loftus-Otway (Center for Transportation Research), Terry Clower (University of North

Texas), and Michael Bomba (University of North Texas). I was the graduate research assistant assigned to this project.

RESEARCH OBJECTIVES

The objectives of the research were to:

- Review the effectiveness of the practices and efforts that have been implemented in Texas to deliver planning documentation that supports the environmental clearance process
- Review the effectiveness of the practices and efforts that have been implemented in other states to link planning with project planning in support of NEPA
- Assess the challenges in implementing identified practices and the need for additional resources and guidance
- Recommend process revisions, procedures for developing robust planning studies and NEPA documents, and changes to the allocation of resources

These objectives were accomplished by reviewing similar efforts undertaken in Texas and around the country, interviewing individuals associated with such efforts and individuals involved in the current planning and NEPA processes in Texas, and synthesizing the results into recommendations.

SCOPE LIMITATION

The research project faced several scope limitations imposed by laws, time restrictions, and practicality issues. These include:

- Federal and state requirements for both NEPA and planning. All recommendations fit in the legal guidelines set forth by the governing bodies (principally the Council on Environmental Quality) and statutes associated with the planning and NEPA processes.
- Variances between individual projects. Going into detail to the individual project level to make recommendations isn't practical because each project is unique and they can vary widely in their specifics.
- Focusing more on system level planning. Due to time restrictions the focus of the research was on long range planning, both statewide and on a regional level. Some recommendations were made that are applicable at the project planning level, but in general the research focused on linking regional planning with the NEPA process.

BACKGROUND

The transportation planning and programming process and the National Environmental Policy Act of 1969 (NEPA) process are long standing elements that have been required in transportation infrastructure development since the 1960's. The Transportation planning process is required by 23 United States Code (U.S.C.) Sections 134 and 135 and 49 U.S.C. Sections 5303 through 5306. Specifically, these sections sets out the process for developing long-range transportation plans to address future transportation needs. Under this rubric, agencies (state and local) are also required to create Transportation Improvement Programs (TIP) that identify a set of priority projects to be implemented in the near-term – i.e., four years. Aligned with these rules are other elements that are required under the Clean Air Act (CAA) to ensure compliance with this Act (42 U.S.C.

Chapter 85), and conformity with National Ambient Air Quality Standards (NAAQS) that were developed under the CAA (40 CFR Part 50). NEPA (42 U.S.C. 4371), introduced in 1969, requires that federal agencies integrate the requirements of NEPA with other planning and environmental review procedures required by law or agency practices, so that all such procedures run concurrently rather than consecutively (40 CFR Part 1500 §1500.2 (c)). This section provides a brief overview of the Texas Department of Transportation's (TxDOT's) Planning Process and the NEPA process.

Much of the work done in the Background section was developed by Jolanda Prozzi from the Texas Transportation Institute as part of TxDOT project 0-6701. It is included here as reference material and because it is an important part of the thesis.

Texas' Transportation Planning and Programming Process

Transportation infrastructure planning is conducted at the statewide, regional, and local levels. In Texas, the two most important agencies/institutions involved in planning for publicly funded transportation infrastructure projects are the Texas Department of Transportation and the Metropolitan Planning Organizations formed in urbanized areas with a population exceeding 50,000 residents. Generally speaking, TxDOT is responsible for the "state maintained" road network, which is commonly referred to as the "on system". The MPOs are responsible for planning for transportation infrastructure in the current and expected urbanized areas over a 20-year forecast period. Texas' MPOs vary, however, greatly in organizational size, structure, available resources (both number of employees and available funding), and program emphasis. The most important

transportation planning documents developed by TxDOT and the MPOs are illustrated in Figure 1.

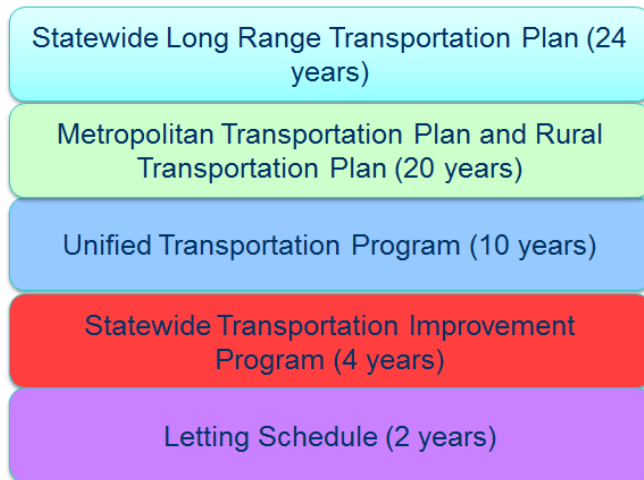


Figure 1: Key Transportation Planning Documents

The planning documents can be broadly categorized as System Planning and Project Planning documents. The System Planning initiatives comprises the:

Statewide Long Range Transportation Plan (SLRTP)

The Statewide Long Range Transportation Plan 2035 details TxDOT's long term (24 years) transportation goals and strategies. The plan also includes an inventory of the state's transportation system – i.e., roads, pedestrian and bicycle facilities, transit, freight and passenger rail, airports, waterways and ports, pipelines, and intelligent transportation systems – and lists the projects included in TxDOT's Unified Transportation Program and the Texas Transportation Commission Selected Proposition 12 projects. Finally, the SLRTP “includes a discussion of potential environmental mitigation activities and

potential areas to carry out these activities”. The discussion; however, focused on policies, program and strategies by mode as opposed to project level mitigation activities (SLRTP, 2010).

Metropolitan Transportation Plans and Rural Transportation Plans

Metropolitan Transportation Plans (MTPs) are long range (typically 20 year) transportation plans for urban areas that exceed 50,000 residents. These plans are developed by the MPO in cooperation with TxDOT and publicly owned transit services. MTPs identify policies, programs, transportation needs, and projects by travel mode, including roadways, public transit, bicycle, pedestrian, air, rail, and freight facilities necessary to meet a region’s transportation needs. It may also include information on the socio-economic profile of the area and environmental considerations. The Rural Transportation Plan (RTP) is a component of the SLRTP and comprises a long range (24 years) transportation plan for areas not included in a MPO boundary. The RTP was developed in cooperation between TxDOT, local and regional decision-makers, and all transportation stakeholders. The RTP includes a list of needed rural highway projects and identifies non-highway (i.e., bicycle and pedestrian, general aviation, inland waterways, freight and passenger rail, and public transportation) needs and projects. The Project Planning initiatives comprise the development of the:

Unified Transportation Program

The Unified Transportation Program (UTP) is a 10 year plan used by TxDOT to guide transportation project development and project construction. The UTP is updated

annually and authorizes the development of the included projects. Project development includes activities such as preliminary engineering work, environmental analysis, right of way acquisition and design (2013 UTP, 2012). The UTP lists planned projects in terms of 12 categories and includes the expected cost and funding sources for each project. Although important in that projects included in the UTP can move forward in terms of project development, the UTP remains a sub-category of the SLRTP and thus does not ensure a budget or guarantee that projects will be built.

Transportation Improvements Programs and Statewide Transportation Improvement Program

Each MPO and TxDOT District develop a Transportation Improvement Program (TIP) of their regions' (urban and rural, respectively) transportation needs that are consistent with the SLRTP and the MTP. The TIPs represent a medium term (typically four year) capital improvement program of multi-modal transportation projects. All federally funded projects have to be included in the TIP. The Statewide Transportation Improvement Program (STIP) is TxDOT's four-year capital improvement program and includes the various TIPs developed by the MPOs and TxDOT Districts. The TIPs and STIP include more detailed project cost estimates and available funding sources. As such, the STIP and TIPs represent how TxDOT and local agencies plan to allocate available funding resources based on the transportation needs of the region.

Letting Schedule

The letting schedule lists projects that will be let within the next two years. At this point, the final contract documents – i.e., the Plans, Specification, and Estimates (PS&E) that provide a detailed description of the project, how it will be constructed, and the estimated cost - have been or are nearing completion.

In addition to the planning documents described above, TxDOT and the MPOs conduct a number of studies - including land use, safety, traffic and mobility (congestion), major corridor, major investment, and project feasibility studies - that inform system and project planning, as well as project development and alternatives analyses.

National Environmental Policy Act

The National Environmental Policy Act process was designed to promote the protection of the environment in actions and programs of federal agencies. With regards to transportation, NEPA attempts to ensure environmentally sound transportation infrastructure investments by addressing the social, economic, and environmental impacts of project location and design. The process also necessitates the input and involvement of the public, interest groups, resource agencies, and local governments.

Since planned transportation projects differ in complexity and impacts, the required environmental documentation varies. Categorical Exclusions (CEs) apply to projects that will not have a significant impact on the human and natural environments. On the other hand, Environmental Impact Statements (EISs) are required for projects that are anticipated to have significant environmental impacts. Finally, Environmental Assessments (EAs) are required when it is not clear whether a proposed project will have

significant environmental impacts. If the EA concludes that the proposed project will have significant environmental impacts, then a EIA is required. If not, a Finding of No Significant Impact (FONSI) will be documented in a separate decision document. This section broadly outlines the elements of an EIS. For additional information the reader is referred to TxDOT's Environmental Manual (at <http://onlinemanuals.txdot.gov/txdotmanuals/env/env.pdf>).

The EIS comprises the following elements:

Early scoping

The NEPA process begins with an initial scoping process. During this process a plan is developed outlining the remaining steps, any preliminary environmental concerns are discussed, and the various stakeholders are consulted. During the scoping phase, various alternatives are identified and considered.

Project Description

This section includes a description of the existing transportation system, location map that show project limits and displays landmarks, limits of the proposed project (including length and logical termini), name of city and county in which project is located, and description of proposed project.

Purpose and Need

The purpose and need section is intended to identify the reason for the project. The proposed project should achieve a specific transportation need (system linkage, transportation demand, capacity, social demands or economic development, safety roadway deficiency) or serve national defense, national security or national objective (established in Federal laws, plans or policies)

Affected Environment

The affected environment section should describe the area that would be affected by the proposed project.

Alternatives Analysis

The alternatives analysis section sets the context for developing alternatives and assessing impacts. It should identify several different alternatives for the project, describing each in sufficient detail for environmental analysis to be done.

Environmental Consequences

The environmental consequences section should describe the environmental impacts and potential mitigation strategies associated with each alternative.

Public Involvement

The public involvement section should detail communication efforts with the communities the project may affect. This includes public meetings, solicitation of

environmental documents for comment, any correspondence with community members, among others.

A Draft Environmental Impact Statement (DEIS) and Final Environmental Impact Statement (FEIS), that include the necessary public involvement and input, provide a detailed description of the proposed project, the affected environment, and a comprehensive analysis of the impacts (both positive and adverse) of all reasonable alternatives. The FEIS also presents a decision about the preferred investment alternative. Finally, a Record of Decision (ROD) is drafted that identifies the ultimate decision reached on the proposed project, the basis for that decision, and any agreed mitigation commitments to remedy/alleviate the impacts imposed by the project on the human and natural environment. If the ROD is approved, the project is advanced into the project programming phase.

THESIS STRUCTURE

This report is broken into eleven chapters. Chapter One introduces the report by describing the motivation behind the report, the research objects, scope limitations of the report, and some background information. Chapter Two describes the methodology behind the research and outlines the overall research plan. Chapter Three summarizes the literature review process which focused on documentation of federal and state programs, reports, and studies related to the research. Chapter Four presents the legal review component of the research, highlighting pertinent federal and state statutes as well as any relevant case law. Chapter Five summarizes and discusses interviews performed by the

research team with employees involved in environmental clearance and transportation planning of states besides Texas along with employees of various resource agencies. Chapter Six summarizes and discusses interviews performed by the research team with employees involved with environmental clearance and transportation planning within the state of Texas. Chapter Seven lists the recommendations gleaned from the literature review, legal review, and various interviews. Chapter Eight introduces the final product of the research, “The TxDOT Resource for Linking Planning with Project Planning in Support of NEPA”. Chapter Nine concludes and summarizes the main points of the report. Chapter Ten lists the various appendices associated with the report. Chapter Eleven presents the references used by the report.

Chapter 2: Research Methodology

This chapter describes the research methodology, specifically how the research was divided into separate tasks and how these tasks relate to each other. The tasks were:

1. Conduct literature review
2. Conduct legal review
3. Interview resource agencies and out of state agencies to determine the state of practice around the country.
4. Interview agencies within the state of Texas to determine the state of practice in Texas.
5. Formulate recommendations
6. Develop a Resource or Guidebook summarizing recommendations
7. Deliver workshops on the Resource and incorporate feedback
8. Document research

FLOWCHART

Figure 2 shows the research process in flowchart format and the following sections expound on the various tasks.

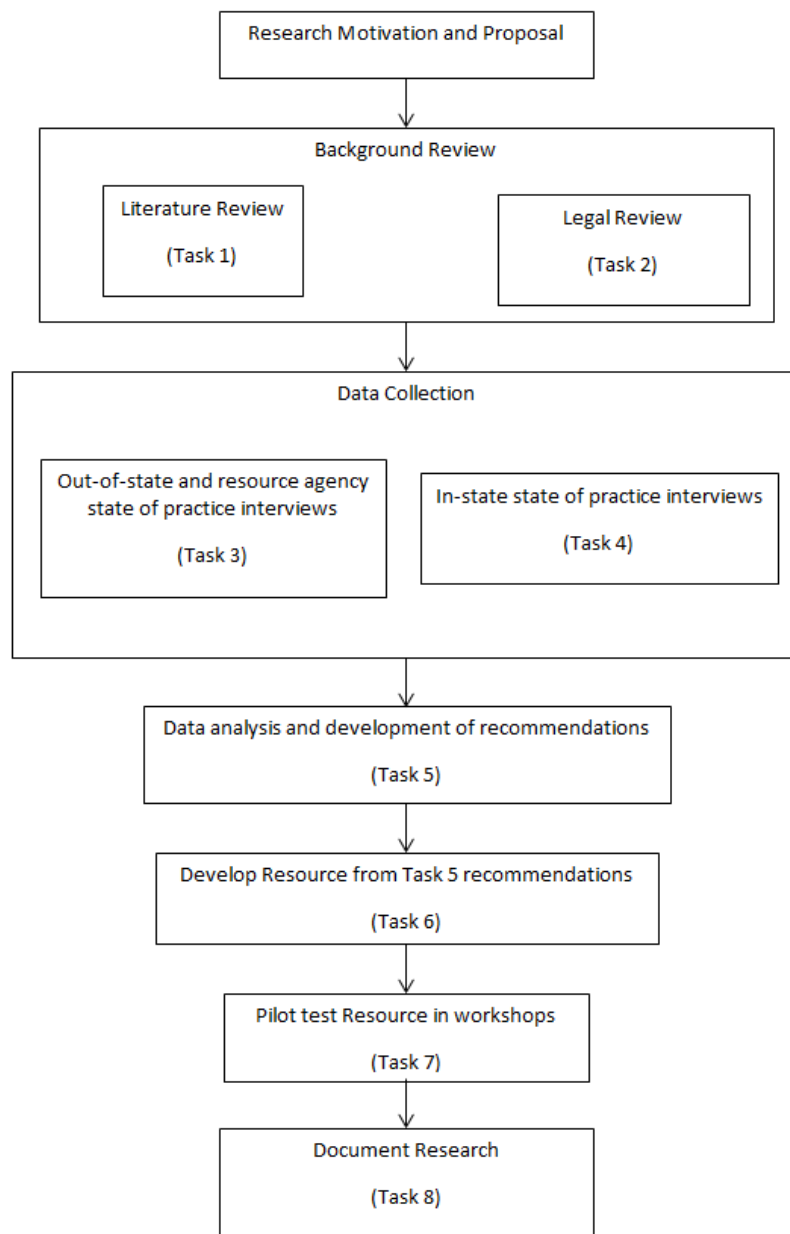


Figure 2: Flowchart of Research Methodology

TASK DESCRIPTIONS

Task 1: Literature Review

Task 1 is an extensive literature review of any programs or initiatives from around the country designed to link the planning and NEPA processes that may have a bearing on the research. Numerous literature sources were examined including, but not limited to, various state programs, federal programs (particularly FHWA's PEL program), the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), and the Volpe National Transportation Center. The purpose of the literature review was to gain an understanding of any past or present initiatives that may have a bearing on this research and to identify potential candidates for interviews in later tasks.

Task 2: Legal Review

As NEPA is a federal law and the transportation planning process is guided by federal and state statutes, it is important to understand the legal implications associated with the research. The legal review summarizes the current regulating statutes and case law that affect the NEPA and transportation planning process. These include the guidelines set forth by the Council on Environmental Quality (CEQ), federal laws such as SAFETEA-LU, recent actions from the Texas Legislature, and various cases associated with NEPA. Of particular importance is understanding how any recommendations made by the research fit into the legal context surrounding NEPA and the planning process.

Task 3: State of Practice Review—Out-of-state and resource agency interviews

The principle data collection phase of the research involves interviewing various individuals around the country involved in the NEPA process, transportation planning

process, or in programs designed to link the two. Individuals from various states were identified through a variety of methods and 30-60 minute interviews were conducted to understand what states besides Texas had done to link NEPA with planning.

Furthermore, various resource agencies were interviewed to gain insights into the problem from a different angle. Resource agencies are critical stakeholders in the project development process and it is therefore essential to have their support and insight in any linkage initiative.

Task 4: State of Practice Review—In-state interviews

The purpose of Task 4 is to determine the current practice within the state of Texas with regard to the NEPA and planning processes and to identify any challenges and concerns associated with a potential linkage program. To achieve this, individuals from various TxDOT districts, TxDOT divisions, and MPO's were interviewed. The interviews identified best practice elements within Texas and highlights issues associated with the current state of practice.

Task 5: Develop Recommendations

From the information gathered in the literature review and the various interviews conducted in Tasks 3 and 4, a series of recommendations were developed. These recommendations cover a broad range of issues and have varying degrees of feasibility.

Task 6: Develop Resource

The recommendations from Task 5 were synthesized and streamlined to form a resource titled “The TxDOT Resource for Linking Planning with Project Planning in Support of NEPA”. The resource is designed to act as a guide for TxDOT and MPO’s to identify information that can be carried over from planning to NEPA and to suggest strategies that may be effective in linking the NEPA and planning processes. The Resource in effect summarizes the main findings of the research and presents them in a cohesive and succinct document for easy use by TxDOT, MPO’s, or any other interested party.

Task 7: Pilot test the Resource in workshops

Ensuring the quality and practicality of the resource is important and to do this the research team presented the Resource in workshops around Texas. The workshops were hosted in a variety of regions (urban, rural, inland, on the coast, etc.) and the feedback received in the workshops was incorporated into the Resource. The workshops were three hours long and consisted of a short summary of the research and a longer feedback section in which participants were polled regarding their opinions on the recommendations in the Resource. The results of the polls were compiled and they provide confirmation for the recommendations provided in the Resource.

Chapter 3: Literature Review

INTRODUCTION

Background Information

Linking the transportation planning process and the NEPA process has been a topic of interest for federal agencies, state DOT's, and MPO's, among others, for over ten years. A few individual state programs have been in effect since the late 1990's and federal laws and guidelines supporting integrating the two processes have been present since the mid-2000's. It has only been in the past ten years that the focus of policy and programs is now looking at how to draft and develop the longer and shorter range planning documents with a view to integrating segments or components into the environmental documents required under NEPA to reduce paperwork, streamline the environmental process, and deliver savings through reduction in duplication of studies and analysis. The objective of the literature review was to gather, analyze, and synthesize the documentation that has been developed to streamline and advance the NEPA review during the planning process and the planning of transportation projects.

What is evident from the literature review is that initiatives regarding linking planning and NEPA are still gaining traction around the country, are not yet fully integrated, and hitherto focused mostly on major projects and corridor planning, not on the overall planning process from long range regional planning to project planning. The goal of linking planning and satisfying the NEPA process is still a relatively new idea and, as a result, there has not yet been a large body of academic literature developed on this topic.

Indeed, many states and other agencies are still in the process of developing and implementing their own initiatives. Literature on these ongoing initiatives is limited, but they will be discussed in more detail in later sections.

Literature Review Organization

The literature review has been broken into four generic sections: (1) a review of programs initiated by the federal government, (2) a review of state sponsored programs, (3) recent changes enacted by the Texas Legislature, and (4) summaries of relevant articles and websites. The section on federal programs covers the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users, which essentially required planning agencies to consider a wide range of concerns (including environmental concerns) early in the planning process. The federal section also covers a Federal Highway Administration (FHWA) program called Planning and Environmental Linkages whose explicit purpose is to help states integrate the NEPA process into the planning process, and guidance they produced in 2007 on integrating planning and NEPA. The section on state programs looks at what several peer states have done in an attempt to link the planning and NEPA process. The Texas section covers the recent legislative changes regarding transportation planning and environmental streamlining implemented by the Texas Legislature. Finally, a fourth section summarizes several relevant articles and websites.

FEDERAL OVERVIEW

Introduction

The planning process and NEPA process are both long standing elements that have been required in transportation development since the 1960's. The Transportation planning process is required by 23 United States Code (U.S.C.) Sections 134 and 135 and 49 U.S.C. Sections 5303 through 5306. These segments of U.S.C. lays out the elements for development of transportation projects, and sets out the process for developing long-range transportation plans to address future transportation needs. Under this rubric, agencies (state and local) are also required to create Transportation Improvement Programs (TIP) that identify a set of priority projects to be implemented in the near-term – i.e., four years. Aligned with this are other elements that are required under the Clean Air Act (CAA) to ensure compliance with this Act (42 U.S.C. Chapter 85), and conformity with National Ambient Air Quality Standards (NAAQS) that were developed under the CAA (40 CFR Part 50). NEPA (42 U.S.C. 4371), introduced in 1969, requires that federal agencies integrate the requirements of NEPA with other planning and environmental review procedures required by law or agency practices, so that all such procedures run concurrently rather than consecutively (40 CFR Part 1500 §1500.2 (c)).

In 2005 the Federal Highway Administration's (FHWA) Chief Counsel and the Acting Chief Counsel for the Federal Transit Administration (FTA) issued legal guidance for linking the environmental and planning processes (FHWA, 2005). This was in response to a request from the Office of Planning, Environment, and Realty at FHWA and the Office of Planning and Environment at FTA. The guidance outlined current law, detailed

how the transportation planning products could be used in the NEPA process and the conditions under which this could occur, and explained the role of Federal agencies and the public in reviewing any of these products if they were used in NEPA analysis and documentation. The memorandum noted that the planning process and environmental assessment required during project development under NEPA should work in tandem, with the results of the planning process feeding into the NEPA process.

The Federal Overview section of the literature review was written by Lisa Loftus-Otway from the Center for Transportation Research for TxDOT project 0-6701. It is included in this thesis as background material and because it is an important component of the research done for the thesis.

SAFETEA-LU

The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Public Law 109-59 (Title 23 U.S.C) enacted into law in August 2005 continued the trend of promoting the incorporation of planning components into NEPA documentation, and set out several provisions to enhance the consideration of environmental issues and impacts within the transportation planning process. It incorporated many changes that were aimed at improving and streamlining the environmental process for transportation projects. It also encouraged the use of products developed in the planning process to be used during the NEPA process. Sections 6001 and 6002 require activities that were considered good practices to strengthen the links.

Section 6001 set out some key modifications to the metropolitan planning process and the statewide planning process. Metropolitan planning in general was modified to include a requirement that MPOs consult and coordinate with planning responsible for other types of planning activities that are affected by transportation, including population growth, economic development, environmental protection, airport operations, and freight movement. The metropolitan planning process is required to promote consistency between transportation improvements and state and local planned growth and economic development patterns. Safety and security of the transportation systems are separate factors to be considered in the planning processes. As part of this, the long range transportation plan is required to include a discussion of environmental mitigation activities along with potential sites to carry out the activities. MPOs are required to consult with state and local agencies that have responsibility for land use management, natural resources, environmental protection, conservation, and historical preservation in the development of the long range transportation plan.

Under Section 6001 the statewide planning process was also modified to include coordination with metropolitan planning and with statewide trade and economic development planning activities. Safety and security are again separate factors to be considered. The statewide planning process will promote consistency between transportation improvements and state and local planned growth and economic development patterns. The long range statewide plan is required to be developed in consultation with state, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation and historical preservation. It

will involve comparison of transportation plans with state and tribal conservation plans or maps and will include inventories of natural or historic resources. The long range statewide plan is also required to include a discussion of potential environmental mitigation activities, along with any potential sites identified to carry out these activities. Figure 3 shows how FHWA perceives the stakeholder involvement cycle will work under the Planning and Environmental Linkages Program (PEL).

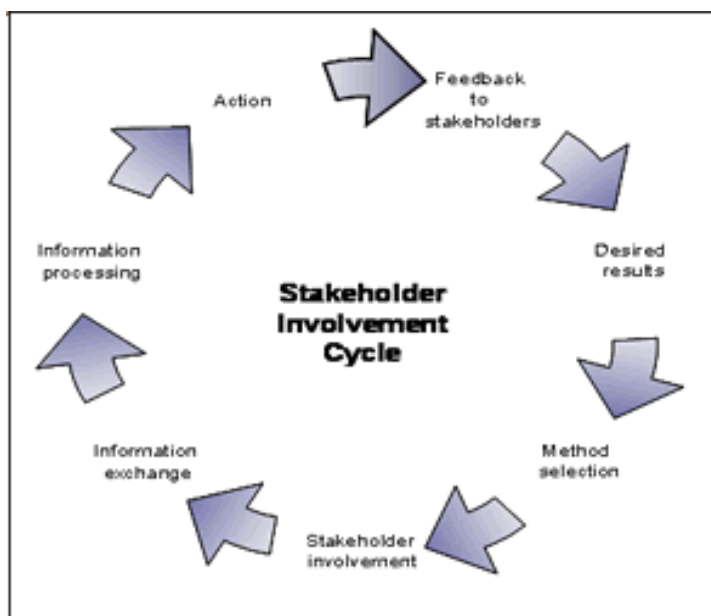


Figure 3: Early Stakeholder Involvement is Critical

Source: FHWA Planning and Environmental Linkages, 2011

Section 6002 incorporated a new environmental review process for highways, transit, and multimodal projects. This applies to projects with environmental impact statements and, if the DOT elects, can be applied to projects that require other types of environmental documents. The section added a new category of participating agencies to allow more

local agency involvement in the environmental process. The DOT is required to define the project's purpose and need and establish a plan for coordinating public and agency participation. Section 6002 included a provision that the DOT is to provide a range of alternatives to be considered for the project as early as practicable in the process.

Two other Sections within SAFETEA-LU also impact the planning process. Section 6004 allows states to assume responsibility for Categorical Exclusions (CEs) after signing a MOU with the Secretary of the USDOT. Section 6010 allows the USDOT to establish a CE, to the extent appropriate, for activities that support deployment of ITS infrastructure and systems. Texas was also one of five states in a new pilot program created under Section 6005 of SAFETEA-LU that allowed these states to assume all USDOT environmental responsibilities under NEPA for highway projects.

FHWA/FTA Final Rule Integrating Planning and NEPA

In February 2007 FHWA and FTA issued a final rule (Federal Register, Vol 72, No. 30, February 14, 2007) to revise regulations governing the development of the metropolitan and statewide transportation plans so that they were in line with changes that had been made by SAFETEA-LU in 2005,

In discussing the final rule FHWA and FTA addressed comments that were received during the rulemaking on the concept of linking planning and NEPA. While most of the comments received were favorable, there was opposition to including an Appendix (Appendix A to 23 CFR Parts 450 and 500 and 49 CFR Part 613 Part 450 - Linking the Transportation Planning and NEPA processes) that had been developed to improve the

quality and use of the rule as part of the rulemaking. There was also concern that it may lead to increased litigation if this Appendix was included in the rulemaking. FHWA and FTA concurred. Appendix A to this final rule is to be used as guidance to further explain the regulation and does not carry regulatory authority in itself. The next section discusses the main segments within Appendix A.

Appendix A notes in its background and overview section, that despite statutory emphasis on transportation planning, the environmental analysis produced to meet requirements of NEPA has often been conducted de novo, disconnected from the analyses used to develop long range transportation plans and statewide and metropolitan transportation improvement plans, as well as corridor and sub-area studies and feasibility studies. Because these processes are not well coordinated, the NEPA process may lead to development of information that should be more appropriately developed in the planning process. This results in work duplication and delays in transportation improvements. Appendix A's purpose was to change this culture by supporting congressional intent that statewide and metropolitan planning should be the foundation for highway and transit project decisions. The Appendix considers that environmental review is part of a continuum of sequential study, refinement, and expansion performed in transportation planning and during project development. The Appendix utilizes a question and answer (Q&A) format, which is organized into three primary categories: procedural, substantive, and administrative issues. This section reviews the main elements within the procedural and substantive issues sections.

The procedural issues Q&A section notes that to be included in the NEPA process, work from the transportation planning processes must be documented in a form that can be appended to the NEPA document or incorporated by reference. The reasonable level of detail for a planning document that is intended to be used in NEPA documentation is discussed. At the planning level the analysis needs to be accurate, up to date and should adequately support the recommended improvements in the various plans. For NEPA purposes, the standards set out under NEPA regulations and the guidance from the Council on Environmental Quality (CEQ) will need to be followed and may require supplemental analysis to be undertaken. The section notes that the requirements set out in SAFETEA-LU Section 6001 and 6002 established mechanisms for increased efficiency in environmental reviews and include earlier participation of multiple agencies in the transportation planning process, which will provide environmental, regulatory, and resource agencies better insight into the needs and objectives of the locality. The environmental, regulatory, and resource (and tribal where applicable) agencies will be given opportunity to identify concerns and share resources, which can play a critical role in determining the feasibility of transportation solutions with respect to their environmental impacts in the statewide and metropolitan planning process. The section recommends that lead agencies decide and agree on the processes and consultation techniques to be used in transportation planning products that will then be incorporated into NEPA processes and documents. At a minimum Appendix A notes that

A robust scoping/early coordination process... which explains the information and/or analyses utilized to develop the planning products, how the purpose and

need was developed and refined, and how the design concept and scope were determined should play a critical role.

FHWA and FTA note that they will give deference to decisions resulting from the transportation planning process if they determine that the planning process is consistent with 3-C planning principles, and if the planning process, alternatives consideration, and decisions have a rational basis that is thoroughly documented. This is consistent with NEPA's requirements that FHWA/FTA are able to stand behind the overall soundness and credibility of analyses conducted and decisions made during the transportation planning process, if they are incorporated into the NEPA document(s).

The substantive issues Q&A section details a list of general issues that should be considered or answered so they can be utilized/relied upon in the NEPA process. These include:

- How much time has passed since the planning studies and corresponding decisions were made?
- Were the future year policy assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion consistent with those to be used in the NEPA process?
- Is the information still relevant and/or valid?
- What changes have occurred in the area since the study was completed?

- Is the information in a format that can be appended to an environmental document or reformatted to do so?
- Are the analyses in a planning-level report or document based on data, analytical methods, and modeling techniques that are reliable, defensible, and consistent with those used in other regional transportation studies and project development activities?
- Were the FHWA and FTA, other agencies, and the public involved in the relevant planning analysis and the corresponding planning decisions?
- Were the planning products available to other agencies and the public during NEPA scoping?
- During NEPA scoping, was a clear connection between the decisions made in planning and those to be made during the project development stage explained to the public and others? What was the response?
- Are natural resource and land use plans being informed by transportation planning products, and vice versa?

The substantive issue section also reviews how the transportation planning process can be used to shape the purpose and need for the project in the NEPA process, especially in conjunction with the changes that were made by SAFETEA-LU Section 6002 for other agency involvement. Appendix A notes that the transportation planning process can be utilized to develop the purpose and need in the following ways as long as they are appropriately explained during NEPA scoping and in the NEPA document.

- Goals and objectives from the transportation planning process may be part of the project's purpose and need statement;
 - a general travel corridor or general mode or modes (e.g., highway, transit, or a highway/transit combination) resulting from planning analyses may be part of the project's purpose and need statement;
 - if the financial plan for a metropolitan transportation plan indicates that funding for a specific project will require special sources (e.g., tolls or public-private financing), such information may be included in the purpose and need statement;
- or
- the results of analyses from management systems (e.g., congestion, pavement, bridge, and/or safety) may shape the purpose and need statement.

The NEPA process can also be initiated in conjunction with the transportation planning process in a number of ways, such as the tiered EIS, corridor or subarea analyses or studies. The Appendix also discusses alternative analyses, noting that it is using the term as specified in NEPA regulations (40 CFR §1502.14). Alternatives can be eliminated from detailed consideration in the NEPA process if one of two avenues is taken during the planning process:

1. Shaping the purpose and need for the project (with proper documentation and public involvement, a purpose and need derived from the planning process can legitimately narrow the alternatives analyzed in the NEPA process); or

2. Evaluating alternatives during planning studies and eliminating some of the alternatives from detailed study in the NEPA process prior to its start.

Information and analysis from the planning process that is needed to support elimination of an alternative from detailed consideration in this section of the EA or EIS should include:

- Identification of any alternatives eliminated during the transportation planning process, which may include broad categories of alternatives. For example, when a long-range transportation plan selects a general travel corridor based on a corridor study, all alternatives along other alignments can be eliminated. The reasons for eliminating the alternative should be summarized.
- Include a summary of the analysis process that supports the elimination of alternatives (the summary should reference the relevant sections or pages of the analysis or study) and incorporate it by reference or append it to the NEPA document.

Any alternatives that are passed over during the transportation planning process because they are infeasible or do not meet the NEPA purpose and need test can be omitted from the detailed analysis of alternatives in the NEPA document, as long as the rationale for elimination is explained.

Planning documents that can provide analyses of affected environment and environmental consequences for project level NEPA analyses include:

1. Geographic Information System (GIS) overlays showing the past, current, or predicted future conditions of the natural and built environments;
2. Environmental scans that identify environmental resources and environmentally sensitive areas;
3. Descriptions of air and watersheds;
4. Demographic trends and forecasts;
5. Projections of future land use, natural resource conservation areas, and development; and
6. The outputs of natural resource planning efforts, such as wildlife conservation plans, watershed plans, special area management plans, and multiple species habitat conservation plans.

It is noted though that many of these assessments may not be current or detailed enough to adhere to NEPA standards so inventories and other elements may need to be supplemented with further refined data.

Elements that can be used for describing a baseline for analyses of indirect and cumulative impacts are also discussed. It is noted that because the nature of the planning process is to look broadly at future land use, development and population increases, and other growth factors, this can provide a sound basis for assessment of cumulative and

indirect impacts. However, to be used in the analysis of indirect and cumulative impacts, such information should be:

1. sufficiently detailed that differences in consequences of alternatives can be readily identified;
2. based on current data or updated by additional information;
3. using reasonable assumptions that are clearly stated; and/or
4. rely on analytical methods and modeling techniques that are reliable, defensible, and reasonably current.

FHWA's Planning and Environmental Linkages Program

In 2005 FHWA initiated the Planning and Environmental Linkages (PEL) program to serve as a guide for states attempting to initiate programs linking transportation planning and the NEPA process. FHWA has set up a Planning and Environmental Linkages webpage under the Planning, Environment and Realty page as part of the Environmental Review Toolkit. The PEL webpage is organized into a series of program sections as follows: program overview, implementation, effective practices, publications, the Every Day Counts initiative, training and workshops, data and analysis resources, and PEL legislation, regulations, and guidance. The overview page notes that the website offers information developed and compiled by FHWA and partners to assist in strengthening planning and environmental linkages. Table 1 briefly covers each of the program sections in the PEL website and Figure 1.3 shows the integration concept of the PEL program.

Table 1: PEL Website Overview

Implementation	<p>Consists of a series of tools that are grouped into four categories</p> <ol style="list-style-type: none"> 1. Institutional Changes 2. Planning and Environmental Process 3. Data and Analysis Tools 4. Coordination and Communication <p>Under each of the categories are hyperlinks to practical applications and resources based upon the sample actions listed for each tool.</p>
Effective Practices	<p>Effective practices have a series of case studies that summarize state or metropolitan efforts to implement an approach to conduct planning and the environmental process. These are divided into the three main aspects of the transportation decision-making process</p> <ul style="list-style-type: none"> • Long-range planning • Corridor planning • Linking planning and NEPA <p>There are also links to an environmental streamlining and stewardship database, and the Transportation Planning and NEPA linkages topic area.</p>
Publications	<p>Detailed resources that provide guidance on key initiatives to encourage integration of planning and the environment. They are grouped into eight main categories:</p> <ol style="list-style-type: none"> 1. Practical Applications of PEL 2. PEL Data and Analysis Tools

Table 1 (continued)

	<p>3. Eco-Logical</p> <p>4. Freight</p> <p>5. Climate Change</p> <p>6. PEL- Overview and Benefits</p> <p>7. Federal Regulation and Guidance</p> <p>8. Funded Positions</p>
Every Day Counts	<p>Website regarding shortening project delivery toolkit, which was set up by FHWA Administrator Victor Mendez to identify and develop innovative measures aimed at shortening project delivery. This is organized around three pillars:</p> <ul style="list-style-type: none"> • Reducing carbon footprint of FHWA • Accelerating technology and innovation deployment • Shortening project delivery
Integrated Planning Work Group	<p>Details the activities and products developed by the IPWG, which was set up under Executive Order (EO)13274, Environmental Stewardship and Transportation Infrastructure Project Reviews, which was intended to advance current environmental stewardship and streamlining by coordinating decision making related to transportation projects across multiple federal agencies. An Interagency Task Force oversees the implementation of the EO.</p>
Training and Workshops	<p>Details activities that are taking place in this area.</p>
Data & Analysis	<p>Provides a series of resources on data and analytical tools that</p>

Table 1 (continued)

Resources	transportation professionals can use to achieve stronger linkages between planning and the environment. This is grouped by sub categories of federal resources, state resources, and other resources.
PEL Legislation, Regulations and Guidance	Sets out the legislation, regulations, and guidance to enhance the consideration of environmental issues within the planning process, and other information relating to planning and environment linkages.

Accessed on: December 22, 2011

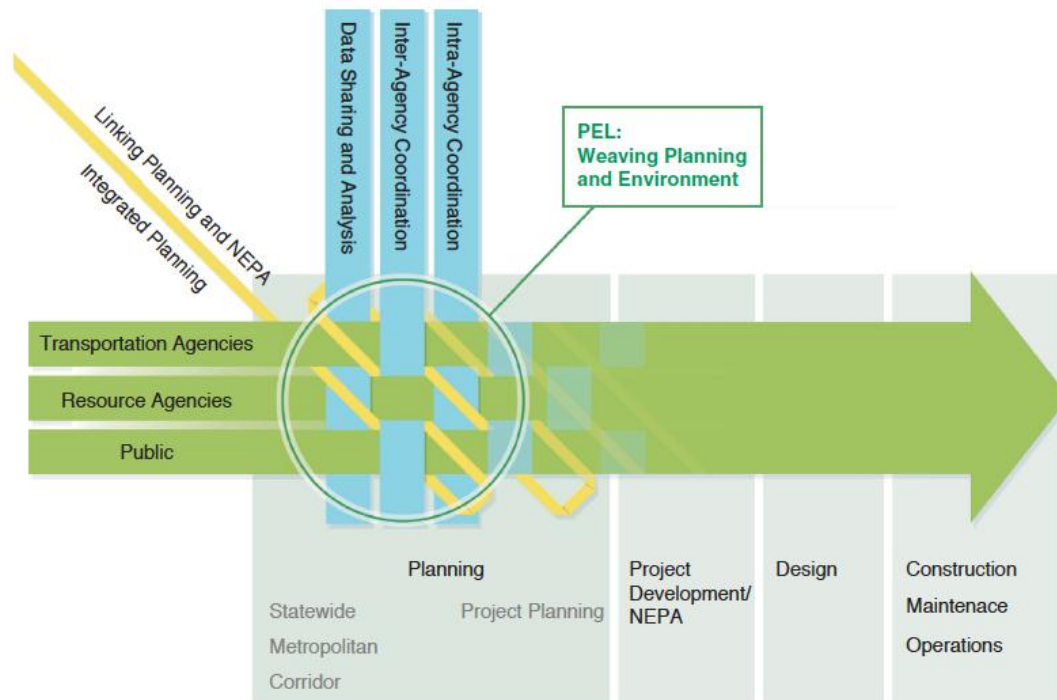


Figure 4: The PEL process of linking planning and NEPA

Source: FHWA Planning and Environmental Linkages, 2011

In January 2008 FHWA issued a transportation planning requirements and their relationship to NEPA approvals memo. This was sent to division administrators and planning and environmental staff. The summary was intended to clarify statutory and regulatory planning and conformity requirements as they apply to the Statewide Transportation Improvement Plan (STIP), the Transportation Improvement Plans (TIP), Metropolitan Transportation Plans (MTP), and the Statewide Long Range Transportation Plan (SLRTP). This was supplemented during February 2011 and a Planning and NEPA Flowchart was also appended to the guidance, which outlined how the NEPA process could begin whether it had federal funding or not and also how this linked with the various transportation plans listed above (Figure 1). The goal of the guidance was also to develop consistency with the TIP. At the TxDOT Environmental Coordinators Conference in September 2011 it was noted that the projects describe in the NEPA document must be consistent with the MPOs fiscally constrained plan (Campos, 2011).

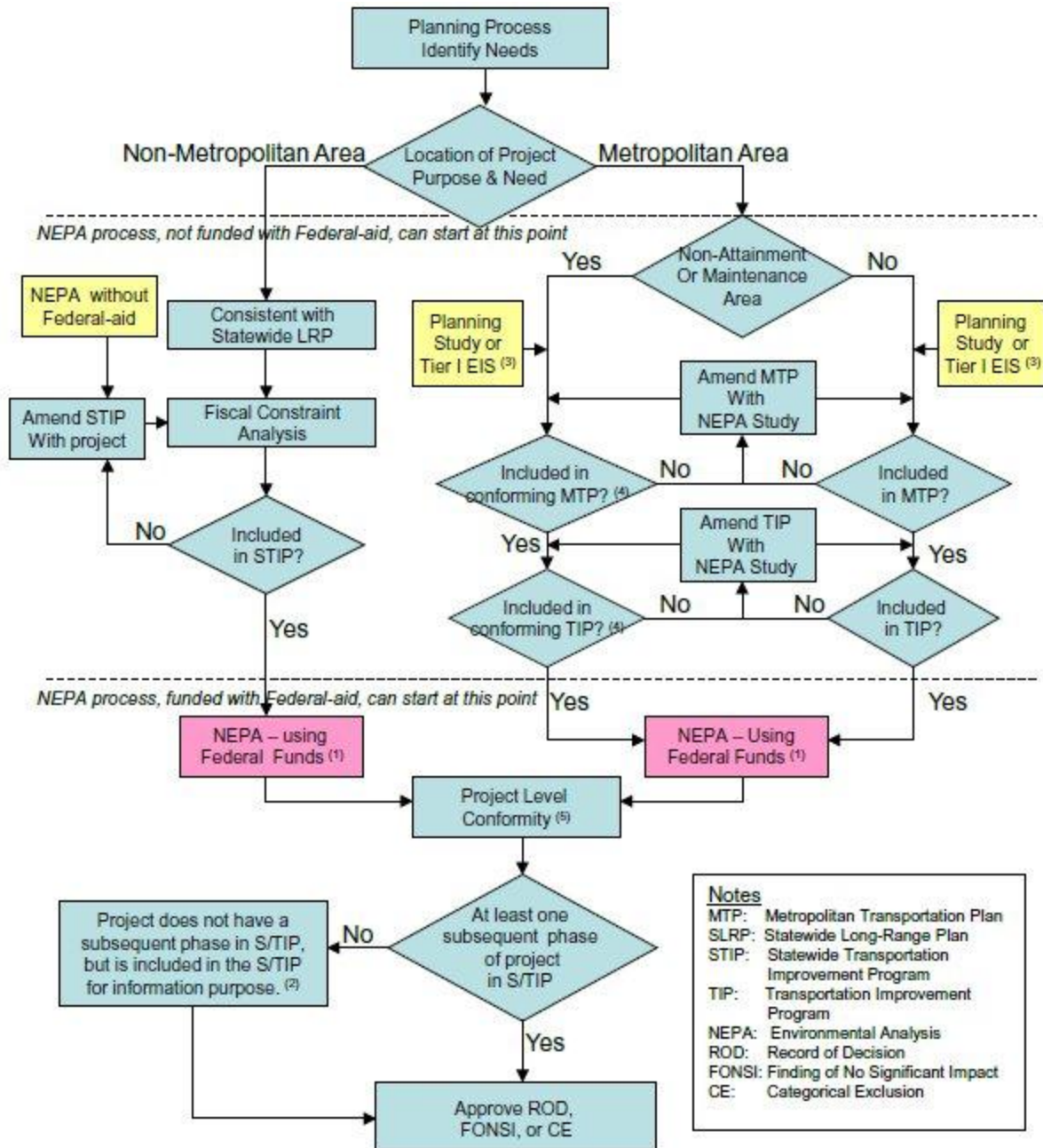


Figure 5: Planning and NEPA Flowchart

Source: FHWA Planning and NEPA, 2011.

FHWA also developed a Planning Environmental Linkages Questionnaire that is part of their shortened project delivery toolkit. Released on April 5, 2011, according to FHWA,

This questionnaire is intended to act as a summary of the Planning process and ease the transition from planning to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, so consequently much (or all) of the history of decisions made in the planning phase is lost. Different planning processes take projects through analysis at different levels of detail. NEPA project teams may not be aware of relevant planning information and may re-do work that has already been done. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage (PEL) process.

It can be seen in Appendix X to this technical memorandum.

STATE PROGRAMS

Colorado

Colorado was one of the first states to implement a program linking transportation planning and the NEPA process in 200[x]. The Colorado Department of Transportation (CDOT) has placed great emphasis on this program that they modeled on FHWA's PEL program. CDOT notes that, "Much of Linking Planning and NEPA can be summarized as the effort to increase the level of information and complexity of decisions being considered at the planning level."

CDOT has established exactly how the transportation planning process and NEPA process can be linked, as shown in Figure 6. By breaking down the transportation planning process and NEPA process into five corresponding stages, CDOT has greatly simplified the process of defining the linkages.

The first stage corresponds to the Purpose and Need in the NEPA process and the Corridor Vision Goals in the planning process. The two can be connected by making the goals during planning as comprehensive and specific as possible. Instead of generic goals typically included in the corridor planning process, specific information about congestion, safety, economic demands, and other factors should be included as these also apply to the Purpose and Need section of the NEPA documentation for a specific project. This means that more information will need to be gathered early on in the transportation planning process.

The second stage corresponds to the affected environment and environmental constraints sections of the NEPA process and the corridor vision description component of the transportation plan. Until the passage of the SAFETEA-LU Act, environmental considerations were not required in the corridor description. To better link the two, it is important that information on the existing environment be gathered and included in the corridor description during the planning process.

The third stage corresponds to the alternative considerations in both the NEPA process and the transportation planning process. In many instances linking these two processes is

difficult because the transportation planning process considers strategies for the entire corridor plan whereas the NEPA process requires specific alternatives for specific projects. The transportation planning alternative consideration process can, however, go a long way towards eliminating alternatives that may not be cost effective or practical even if they meet the environmental requirements set in place by NEPA. Again, more information may need to be gathered about the corridor to be able to make project specific recommendations.

The fourth stage corresponds to the public involvement aspects of both the NEPA process and the transportation planning process. The linkages in this stage are apparent. The NEPA process requires public input on more specific issues, but if the planning process incorporated some of these issues, enough information should be available to allow the public to make informed recommendations.

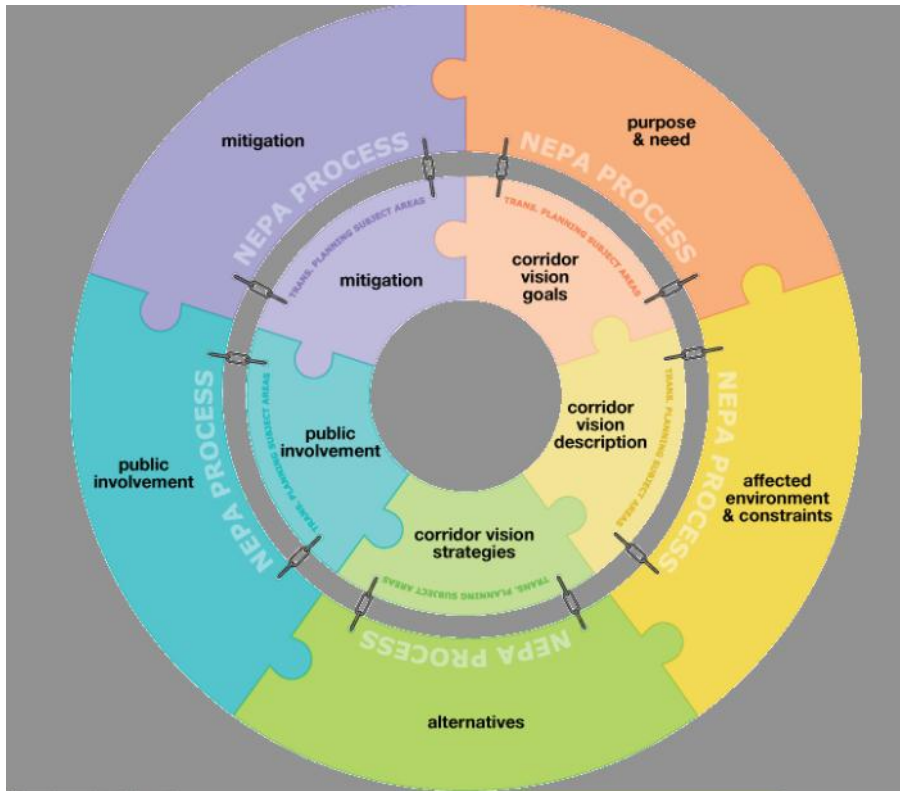


Figure 6: Colorado's Linking Planning and NEPA

Source: CDOT, 2011

The fifth and final stage corresponds to the mitigation aspects of the transportation planning and NEPA processes. Before the passage of the SAFETEA-LU Act, discussion of environmental mitigation was not required in the regional and state transportation plans. Integrating the mitigation components of the corridor plan and the NEPA documentation involves identifying, in the transportation plan, areas in the corridor that could be impacted by various mitigation strategies. Full knowledge of the resources in the area will also allow for prioritizing mitigation strategies depending on which areas need them the most.

The CDOT website lists several case studies, both within Colorado and in other states, that exemplify the linkage between NEPA and transportation planning. One such case study, the Arapahoe Road Corridor Study, is an excellent example of four of the linkages discussed above.

1. A vision and objectives statement was developed that translates to the purpose and need section of NEPA.
2. An environmental review of the resources that could be affected by the various options proposed in the corridor study was undertaken. This review can be used in the environmental assessment section of the NEPA process.
3. A thorough evaluation, including extensive documentation, of the alternatives and screening process for the alternatives was undertaken. This relates to the alternative screening section of the NEPA process.
4. Input from the public and multiple agencies was sought per the requirements of the NEPA process.
5. Mitigation strategies were not included in the planning study, something CDOT could improve upon in later projects.

North Carolina

In 2002 the state of North Carolina signed the Environmental Stewardship Policy, a transportation planning strategy that attempts to meet North Carolina's transportation needs while preserving the state's natural resources. One component of the Environmental Stewardship Policy was the Integrating Planning and Project

Development Project (Integration Project) whose goal is to integrate long-range transportation planning with the project development process (NEPA).

North Carolina's Department of Transportation (NCDOT) first created a Comprehensive Transportation Plan (CTP) that outlined North Carolina's transportation planning process, with special emphasis placed on areas of the process that could be affected by NEPA.

With an emphasis on environmental issues, early stakeholder involvement, and integrated land use planning, the CTP was perfect to compare with the NEPA process to attempt to identify linkages between transportation planning and NEPA. NCDOT identified eight linkages between the CTP and the NEPA process.

Long range planning (CTP) TO Project development process (NEPA):

1. Problem statement TO Purpose and need
2. Alternatives analysis TO Alternatives selected for detailed study
3. Modal alternatives analysis investment TO Project reasonable and feasible modal alternatives
4. Fatally flawed alternatives TO Alternatives selected for detailed study
5. CTP public involvement TO Project level public involvement
6. Land use TO Indirect and cumulative impact assessment
7. Community impact analysis TO Community impact assessment
8. Mitigation needs and opportunities TO Mitigation planning and development

Currently NCDOT is still in the process of analyzing and integrating the implementation guidelines for the linkages. NCDOT's website has information for the first linkage (problem statement to purpose and need) and a paper discussing the sixth linkage (land use to indirect and cumulative impact assessment) was developed, but to date no information on the specifics of the other linkages was made available.

Tennessee

In 2002 the Tennessee Department of Transportation (TDOT) began the process of updating its environmental procedures manual. Concurrently, political change in Tennessee resulted in a new direction in transportation planning regarding the environment. One consequence of this was a push toward streamlining the environmental process. As a result, Tennessee developed the Tennessee Environmental Procedures Manual (TEPM) that changed how the state coordinated transportation projects and addressed environmental concerns. Specifically, TDOT initiated the Tennessee Environmental Streamlining Agreement (TESA) with FHWA, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, and various other federal and state agencies involved in environmental and transportation planning. The agreement establishes a decision-making process with four concurrence points at which each of the signatory agencies must sign off on the project's development. Concurrence by each agency expedites the permitting process and reduces the time spent re-analyzing decisions. The decision-making process, with the concurrence points included, is as follows:

1. Determine Project Environmental Constraints—including preparation of a Transportation Planning Report (TPR) to identify environmental constraints and initiating consultation with any affected tribes
2. Provide Project Notice—upon completion of the TPR, by sending an early notification package to the signatory agencies.
3. Agree to Participate in the Project Environmental Review—in which agencies have 45 days from the receipt of the Early Notification Packet to determine whether to participate in the project
4. Determine Environmental Document Type—during which TDOT submits a recommendation for the type of document to be prepared and FHWA reviews the request.
5. Determine Timeline for Completing the Document—in which TDOT submits a draft recommendation that is reviewed by FHWA.
6. Determine Purpose and Need and Study Area Package—for submittal to the participating agencies.
7. Concurrence Point 1—within 45 days of receipt of Purpose and Need and Study Area Package, participating agencies provide a response to the purpose and need, level of NEPA document, as well as input on environmental features, resources of concern, and potential alternatives.
8. Public Scoping – including preparation of a Notice of Intent.
9. Identify Project Alternatives to Be Evaluated—based on output from Concurrence Point 1, any general alternatives analysis conducted by TDOT and development

- of a Project Alternatives Review Package for submittal to the participating agencies.
10. Concurrence Point 2—within 45 days of receipt of the Alternatives Review Package, the participating agencies provide a response on the alternatives to be carried forward and input on scopes and methodologies of detailed technical studies.
 11. Conduct Detailed Analysis of Alternatives—based on output from Concurrence Point 2, TDOT prepares a Preliminary Draft Environmental Document (EA, EIS or TEER) and forwards a copy to the participating agencies.
 12. Concurrence Point 3—within 45 days of receipt of the Preliminary Draft Environmental Document the participating agencies review the document and respond to its adequacy.
 13. Draft Environmental Document—based on output from Concurrence Point 3, TDOT finalizes the EA or DEIS for approval by FHWA (or finalizes the draft TEER) and holds public hearings.
 14. Determine Preferred Alternative and Mitigation Measures—based on output from Concurrence Point 3 and any public hearings, TDOT prepares a Preferred Alternative and Mitigation Package that is forwarded to the participating agencies.
 15. Concurrence Point 4—within 45 days of receipt of the Preferred Alternative and Mitigation Package, the participating agencies review and provide their concurrence on the selection of the preferred alternative and preliminary mitigation.

16. Prepare Final Environmental Document—based on output from Concurrence

Point 4, TDOT prepares the Finding of No Significant Impact, Final EIS, or Final TEER for appropriate approvals.

17. Applications for Applicable Permits—based on the final environmental

document, TDOT prepares all necessary applications for all applicable permits.

Of note are the similarities between Tennessee’s concurrence points and the decision points used in Washington’s Reinventing NEPA program (see next section). Three of the concurrence points correspond exactly to the concurrence points in Reinventing NEPA, and the other concurrence point for Tennessee (Concurrence Point 3 regarding the Draft Environmental Document) is one of the six consensus points for Reinventing NEPA.

Washington

The state of Washington has been a model for integrating transportation planning with NEPA decision-making. In 1998 the Washington State Department of Transportation (WSDOT), in coordination with the FHWA, FTA, and numerous other state and federal agencies instituted the “Reinventing NEPA” program. The ultimate goal of the Reinventing NEPA program was to streamline and increase the efficiency of the project delivery process through improving the communication between the transportation planning and NEPA documentation components. In October 1998 the program was implemented on a pilot basis on three different corridors: State Route 20, Interstate 405, and State Route 104. In each case the transportation plan was a corridor level plan (as opposed to a state wide plan such as a Long Range Statewide Transportation Plan or a

Statewide Transportation Improvement Program) and as such had to be incorporated into the local MPO's Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP). The results of the pilot program ultimately were mixed. The Reinventing NEPA program is no longer being used in Washington after some key components were found to cause critical delays. WSDOT, however, determined that several aspects of the program were effective and should continue to be used in the state's transportation planning process.

One of the critical changes under Reinventing NEPA was to the organizational structure through which decisions were made. Traditionally, persons involved with the planning process worked within their respective agencies and agreement had to be reached by each agency independently. Inter-agency communication was encouraged, but the structure of the decision making process did not facilitate effective communication. To mitigate this, Reinventing NEPA brought together all the stakeholders that would be involved in the project and formed committees. Decision making for the project would go through the committees and since the committees had representation from all the appropriate stakeholders, it was assumed getting official support from the necessary agencies would merely be a formality. Official support from each agency was still required for legal purposes, but under the scenario assumed in the Reinventing NEPA program the process would be greatly expedited. The committee structure was as follows:

1. Transportation Decision Makers—This committee consisted of officials from WSDOT, FHWA, and FTA and was ultimately responsible for the major decisions on the project.
2. The Project Management Team—This committee consisted of WSDOT staff members and was responsible for day-to-day management of the project. It was a multi-disciplinary team with members from the planning, environmental, and design departments.
3. Steering Committee—This was the principle advisory committee and was composed of numerous stakeholders. The views, opinions, and issues of the various stakeholders were intended to be fleshed out in the Steering Committee. The Steering Committee was essentially a decision-making committee, as approval from all participants was required for an option to be supported and passed on to the Transportation Decision Makers committee, which essentially just signed off on the Steering Committee's choices.
4. Agencies and Indian Tribes with jurisdiction—This committee was composed of the resource agencies and Native American Tribes that can stop the project by imposing regulations or refusing to grant permits.

Figure 7 visually depicts the committee structure.

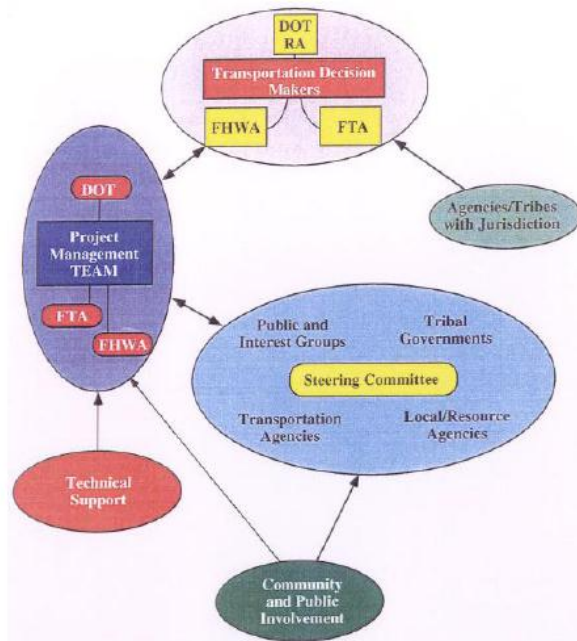


Figure 7: Proposed Committee Structure under Reinventing NEPA

Source: Transportation for Communities Webpage, 2011

The concept of bringing together a wide variety of stakeholders into committees was well received by all, but the structure of the committees, as initially proposed, did not work well. On the State Route 20 and Interstate 405 pilot programs the committee structure was altered because the requirement that the Steering Committee needed a unanimous vote to make even basic choices was too onerous a requirement. The new committee structures adopted by State Route 20 and Interstate 405, although slightly different from each other, followed the same concept: a single executive decision making committee would be supported by a project management team and a technical advisory committee.

The main difference between this structure and the structure proposed under Reinventing NEPA is the change in the mandate of the Steering Committee. Instead of requiring unanimous agreement among Steering Committee members, the new process effectively makes the Steering Committee a committee that only provides technical advice to the Project Management Team. Recommendations made by this technical advisory committee were passed on to the executive committee for approval. The Interstate 405 project also included a citizen committee that consisted of private citizens, local businesses, and neighborhood associations. The citizen committee provided public input to the Project Management Team. Aside from removing the onerous approval requirements of the Steering Committee, this new structure also separated stakeholders into distinct categories: decision makers, technical staff, and the public. These groups all coordinated with the Project Management Team instead of with each other as they had in the Steering Committee. This greatly reduced disagreements and controversy in the decision making process.

Perhaps the most important concept introduced in the Reinventing NEPA process was the idea of critical decision points. One of the problems with the previous process was decisions would be made in the transportation planning process and then re-made in the NEPA process. The decision point idea was designed to prevent this by requiring stakeholders to approve the decisions made at various points in the process and agree to not go back and change these decisions at a later date. If all the requisite stakeholders are involved in the process at an early point, the problem of wasting time and money on re-analyzing the same decision multiple times would theoretically be solved. The decision

point idea worked well in the pilot programs and has been adopted by several other states in their linking of transportation planning and NEPA.

Reinventing NEPA called for nine decisions points throughout a project and these nine points were divided into two categories: consensus points and concurrence points.

Consensus points merely required “substantial agreement” among all the agencies with jurisdiction while concurrence points required unanimous approval. The inclusion of concurrence points made the restructuring of the Steering Committee possible, as all relevant agencies had the ability to halt the project if they felt it necessary. The nine decision points were:

1. Statement of purpose and need (Concurrence Point 1)
2. First-level screening criteria (Consensus Point 1)
3. Fatal flaw elimination of solutions (Consensus Point 2)
4. Identification of additional data needs (Consensus Point 3)
5. Second-level screening criteria (Consensus Point 4)
6. Alternatives to include in draft EIS (Concurrence Point 2)
7. Decision to publish draft EIS (Consensus Point 5)
8. Preferred alternative choice (Consensus Point 6)
9. Preferred alternative and mitigation strategy in final EIS (Concurrence Point 3)

The concurrence points were critical as unanimous agreement amongst all agencies can be difficult to obtain, but the hope was that by working through the consensus points the project team could work out all the issues before the concurrence points. In the Interstate

405 pilot program, WSDOT had to modify the rules for concurrence points slightly to allow for conditional concurrence (i.e., an agency concurs given some future condition is met).

Miscellaneous State Programs

Several other states have implemented programs that help coordinate the transportation planning process with the NEPA process. These states include California, Oregon, Idaho, Maine, Florida, Massachusetts, Michigan, Montana, Indiana, and Pennsylvania. Most of the concepts adopted by these states are very similar to the concepts used in the state programs that were covered in this section. Furthermore, the documentation level for the programs in these states was not sufficient for inclusion in the literature review. These states were, however, identified as potential interview sources.

OTHER LITERATURE SOURCES

Improved Linkage Between Transportation Systems Planning and the National Environmental Policy Act (NEPA)

The article—a toolbox resource—was developed by a consultant for the American Association of State Highway and Transportation Officials (AASHTO). It describes how government agencies can streamline and enhance the transportation planning and NEPA processes. The toolbox is split into eight different chapters as follows:

Chapter 1: Understanding Your Decision-Making Process - describes how to assess an organization's current decision-making process. Whatever the current process may be, it will have strengths and weaknesses and it is important to recognize these so that they can

be dealt with accordingly. The chapter provides some sample tools organizations can use to help with the assessment, including several questions states should ask about the decision-making process.

Chapter 2: Overcoming the barriers between Planning and NEPA - outlines what many of the most common obstacles facing officials trying to link planning and NEPA and how to overcome these obstacles. These common challenges include differing agency goals, lack of trust, deeply entrenched cultures, fear of litigation, and a lack of resources. Finding ways to overcome these barriers requires a well-thought out and planned approach, a willingness to change throughout the organization, commitment from upper-level management, some method of building trust, an ability to measure results, and effective communication between multiple parties.

Chapter 3: Laying the Groundwork for NEPA in Planning - provides some specific steps an organization can take in the planning process to lay a foundation for NEPA documents in the future. Two key points of the NEPA process that need to be included in any planning document are that several alternatives need to be considered with respect to their social, economic, and environmental impacts and the public and other agencies need to have a chance to provide input. There are also several types of analyses that may take place in the transportation planning process that would set the groundwork for the NEPA process. These include regional development and land use studies and plans, natural resource plans and studies, regional air and water quality analyses, travel demand

analyses, need studies, analyses of different alternatives, and analyses of potential cumulative impacts.

Chapter 4: Enhancing the Planning Process - describes the procedural techniques being used to link planning and NEPA and whether these techniques would be useful for a given situation. The three principle techniques are: consideration of environmental factors in planning, utilizing corridor and sub-area studies, and tiering NEPA documents. Considering environmental factors in planning has obvious applications to linking planning and NEPA. Performing corridor and sub-area studies narrows the focus of planning, allowing more analyses of alternatives and specific effects. Tiering of NEPA documents involves preparing a NEPA document for a corridor and also preparing NEPA documents for the individual projects. This allows for NEPA effects to be documented early in the process.

Chapter 5: Determining the Appropriate Level of Analysis - discusses how much environmental analysis is necessary at the planning stage to effectively link NEPA and the planning process. Chapter 5 also discusses the uncertainties in planning and how they can be accounted for in the NEPA process. Determining how much analysis to do is difficult and depends on the situation. Chapter 5 points out that corridor and sub-area plans require more detail than system wide plans.

Chapter 6: Collaboration – notes that early and effective involvement of multiple agencies and the public is one of the principles of NEPA and is critical to success.

Chapter 6 discusses how to facilitate early collaboration among these parties. The techniques discussed include environmental stewardship declarations, interagency agreements, committees and working groups, decision points, and funding resource agency positions. Within an organization, different techniques may be necessary including agency reorganization, cross-functional training, rotating assignments, pilot programs, and checklists or manuals.

Chapter 7: Data Sharing – states that efficient sharing of information among different agencies is critical and will prevent problems from cropping up later in the project. Typically this information is in the form of Geographic Information System (GIS) maps and layers. Information can include data on resource locations, maps of alternatives, and maps of environmental effects.

Chapter 8: Getting Started - discusses how an MPO or state planning agency can get started linking planning and NEPA. Where exactly an organization starts depends on the individual organization, but there are several steps listed in Chapter 8 that each organization should accomplish.

Summary of Peer Exchange on Improving Transportation Decision-Making through Planning, NEPA, and Project Development Linkage

The peer exchange was held between seven states who were at the time (2001) considered leaders in linking NEPA and the planning processes: California, Florida, Indiana, Maryland, North Carolina, Oregon, and Washington. The purpose of the peer

exchange was to 1) share different states' practices in linking planning and NEPA, 2) identify similarities and differences between different states' strategies, and 3) reach conclusions on how obstacles can be overcome. The paper details what each state was doing to link planning and NEPA and lays out some general recommendations for more collaboration between FHWA and the states from an analysis of the issues many of the states had. These recommendations include:

- Improve the Planning Process—States need to have effective planning processes for everything else to work. This entails planning processes that incorporate many components of the NEPA process.
- Use Systems Planning More Effectively—Long range planning on a statewide level needs to connect better to individual project planning and short term plans.
- Address When to Issue a Notice of Intent—States requested guidance on this issue from FHWA.
- Provide Guidance on Purpose and Need Statement—States requested information on what is a legitimate need and how much detail should be in the statement.
- Provide Guidance on Determining Impacts and Range of Alternatives—States requested guidance on how impacts should effect the range of alternatives and what level of detail is required for assessing impacts.
- Address Needs of Corridor Planning Transportation—Corridor planning was seen as an effective middle ground between system wide planning and project planning.
- Improve Programmatic Effort—States were concerned about the uncertainties regarding environmental agency approval of projects.

- Provide Guidance on Resource Management—States requested FHWA’s assistance for determining how environmental and transportation agencies can use reimbursed positions.
- Identify Roles and Responsibilities of Participating Agencies—This recommendation mainly centered around the problems faced when trying to get multiple agencies to work together when there is little history of cooperation.
- Discuss Role and Strength of MPOs—The role of MPOs varies from state to state and is often not well defined.
- Need Technical Assistance from FHWA—States requested help from FHWA personnel in linking planning and NEPA.

Recommendations to Improve and Update the National Environmental Policy Act

The paper presents recommendations to improve NEPA, some of which are pertinent to linking planning and NEPA. The recommendations are broken into nine groups.

Group 1: Addressing delays in the process,

Group 2: Enhancing public participation,

Group 3: Better involvement for state, local, and Tribal stakeholders,

Group 4: Addressing litigation issues,

Group 5: Clarifying alternative analysis under NEPA,

Group 6: Better Federal agency coordination,

Group 7: Additional authority for Council on Environmental Quality,

Group 8: Clarifying the meaning of “cumulative impacts”, and

Group 9: Studies

For the purposes of this research, Groups 1, 3, and 6 (addressing delays, better stakeholder involvement, and better agency coordination) are the most relevant, although the other groups contain important information. Twenty specific recommendations were developed. Some of the recommendations that are relevant include:

- 1.1: Amend NEPA to change “major federal action” to “significant federal action”. The purpose of this recommendation is to clarify what is actually necessary to initiate the NEPA process. This recommendation would help transportation planners to know when they need to account for the NEPA process in their plans.
- 5.1: Amend NEPA to require analysis of only “reasonable alternatives”: CEQ is asked to issue regulations to define “reasonable alternatives” as those that are economically and technically feasible. This recommendation would go hand in hand with one of the main purposes of integrating transportation planning with NEPA—i.e., eliminating alternatives in the transportation planning phase, because they do not support the transportation need or are not feasible.
- 6.1: Direct CEQ to promulgate regulations to encourage more consultation with stakeholders. This recommendation is aimed to involve environmental and transportation officials early on in the process, a key component of linking transportation and NEPA.
- 8.1: Direct CEQ to promulgate regulations to make clear which types of future actions are appropriate for consideration under the cumulative impact analysis:

Also amend NEPA to instruct federal agencies to employ practical considerations when assessing the practicality of a future action's impact on the environment.

This recommendation would greatly assist transportation planners when linking their plans to NEPA as the wide range of transportation planning processes deals principally with the cumulative impacts of numerous projects.

Transportation for Communities Website

The Transportation for Communities website was developed by ICF International, a consulting firm, at the request of the Transportation Research Board (TRB). The website's principle feature is a "Decision Guide", which lists the critical decisions in the long range planning process, the programming (or funding) process, the corridor planning process, and the environmental review process. Each decision is described, the stakeholders and the roles they play are listed, integration methods are discussed, specific case studies are provided, and technical advice is given. This format allows users to easily see which decisions in transportation planning are linked to decisions in the environmental process. Since specific information is provided on the decisions and how to link them, the website also provides users with important information to begin undertaking the linking process. Figure 8 is a screenshot of the NEPA portion of the decision guide.

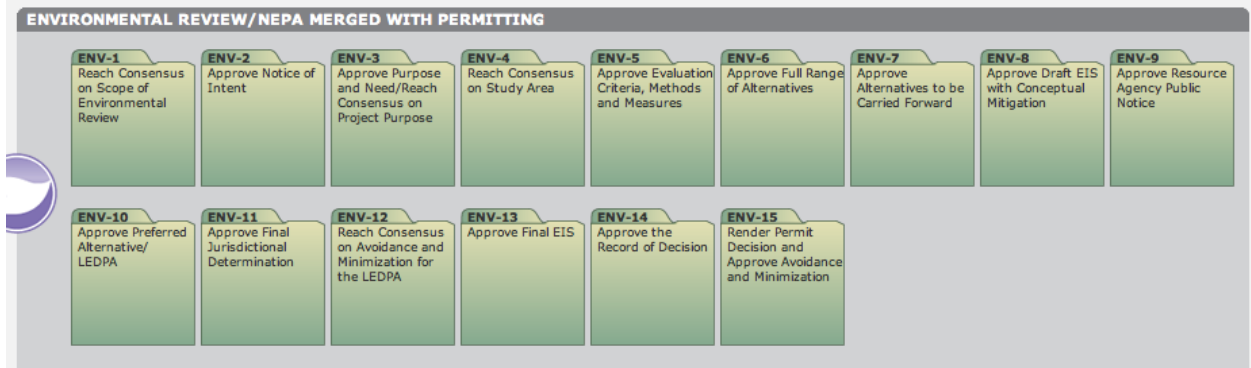


Figure 8: Screenshot of the NEPA portion of the Decision Guide

Source: Transportation for Communities, 2011

A Guide to Measuring Progress in Linking Transportation Planning and Environmental Analysis

This guide was developed by the Volpe National Transportation Center for the U.S. Department of Transportation (USDOT) and FHWA to help states measure the success or failure of programs related to linking transportation planning and the NEPA process. Measuring the success of a program is critical to demonstrate the program's success, specifically when the benefits of a program may be difficult to measure as is the case with many PEL related programs. The guide defines a four-step process to measure success:

- define specific goals and objectives,
- develop a set of metrics,
- determine baselines and targets for those metrics, and
- measure and report results.

Step 1: Define specific goals and objectives - To determine how successful a program is, one must define success. What is to be accomplished by the program? It is impossible to track progress towards a goal or objective if the goal or objective is not clearly defined.

Step 2: Develop a set of metrics - This step deals with how an agency measures progress towards reaching its goals and objectives. These measurements can be either output or outcome measures: output measures track the activities or products of an action while outcome measures track the results or impacts of an activity. In either case, it is important that the metrics used have certain characteristics. They must be:

- valid—the metric should logically connect with the goal/objective,
- understandable,
- objective—metrics should not be biased,
- available—the information for the metric must exist and be accessible,
- cost effective—spending too much on measuring can defeat the purpose of performing the measurements,
- concise—the metric is limited to what is relevant, and
- controllable—there is no point in measuring something that the agency has no control over.

Step 3: Determine baselines and targets - Defining a baseline is important because it is impossible to measure anything without an origin point. Understanding the current condition will help the agency determine if its actions are helping or hurting.

Determining targets is essentially translating the goals from Step 1 into the metrics

developed in Step 2. Targets allow an agency to determine if a goal has been met or how much progress has been made towards achieving the goal.

Step 4: Measure and report results - With the measuring system implemented, the agency must perform the actual measurements and assess the results based on the defined baselines and targets. The data gathered should be used constructively to improve the decision-making process.

After describing the measuring process, the guide provides four example objectives and goes through the process described above for each objective. Each objective is relevant to linking transportation planning and NEPA and many of the considerations discussed in the examples are pertinent to any agency attempting to link the two processes.

Guidance on Using Corridor and Subarea Planning to Inform NEPA

The article is intended to assist transportation planning officials and environmental practitioners in using corridor and subarea planning to inform the NEPA review process.

Corridor and subarea level plans are conceptual plans that focus on a specific transportation corridor or region and as such are more detailed than a typical statewide transportation plan. The guide is broken down into the following sections:

- introduction,
- planning and initiating a study,
- conducting a study,
- making a study consistent with NEPA regulations, and
- conclusions and lessons learned

Introduction: Much of the material covered in this section discusses the problems associated with a stand-alone transportation planning process and NEPA process.

Planning and Initiating a Study: This section first expands on the definition of a corridor or subarea planning study by briefly discussing what corridor or subarea planning studies will include. A corridor or subarea level study will typically include a reason for conducting the study, a definition for the scope of the study, and a list of products that will result from the study (see the Conducting a Study section for more details). Corridor or subarea planning can be performed for a variety of reasons, including:

- refining projects or needs identified in long range planning,
- identifying problems or solutions that should be analyzed in the NEPA process,
- prioritizing projects when funding is limited, and
- when the project(s) is(are) complex.

When considering a corridor or subarea level study, it is important to know what the agency hopes to accomplish with the study or what the overall results of the study will be. These include:

- increased efficiencies with the overall process due to reduced duplication of work and early stakeholder involvement,
- greater flexibility for projects since a wider range of alternatives can be considered in a corridor study as opposed to an EIS or EA for a single project,

- relationship building between all potential stakeholders, reducing opposition during the environmental review process,
- coordination of resources amongst agencies with limited budgets,
- early and consistent involvement of the public, and
- prioritization of investments as a result of earlier consideration of environmental issues and potentially wider ranging mitigation strategies.

When beginning a corridor or subarea level study, bringing in the right stakeholders is extremely important. These include resource and regulatory agencies, NEPA practitioners, transportation planning officials, land use planning officials, community development/housing officials, legal counsel, elected officials, and the general public.

Conducting a Study: -The principle products of a corridor or subarea level planning study that will help inform the NEPA process include:

- purpose and need or goals and objectives statements,
- corridor definition and mode of travel definitions,
- preliminary alternative screening including eliminating unreasonable alternatives,
- basic description of the environmental factors in the region, and
- preliminary identification of environmental impacts and potential mitigation strategies

Each of these products is discussed in greater detail in the article. It is important that each of these products meet the standards and regulations defined by the FHWA to be used in

the NEPA process. This means that transportation officials must take care to ensure the appropriate level of detail is used when undertaking the study. Furthermore, the study process must have been well documented, made available for public review, been conducted with the participation of relevant agencies, and must be reviewed by the FHWA before it can be included in the NEPA documentation. Making sure that the results of the corridor or subarea level planning study can and will be used in the environmental review process is very important. NEPA practitioners need to consider several issues when deciding if they can or should reference planning documents in the NEPA process. These include:

- the age, relevance, and reliability of the planning study,
- the consistency of the assumptions made in the study with the assumptions made in the NEPA process,
- whether all the relevant stakeholders were included in the planning study,
- alternatives eliminated in the planning study must be included in the NEPA documentation, and
- reasons for eliminating alternatives and analysis of those alternatives must also be included

This section also notes that the Notice of Intent (NOI) should mention the fact that planning materials for a project will be used to inform the NEPA process.

Making Study Consistent with NEPA regulations: Much of the basic information in this section was covered when discussing the products of the corridor or subarea level study.

The other relevant information in this section includes a discussion of the importance of having good documentation and the appropriate level of detail for studies conducted during the planning process. Good documentation includes putting into writing the:

- thought process behind any conclusions or recommendations,
- totality of the information used during the planning stage, including the information's reliability and a description of how complete the information is, and
- involvement of other agencies and the public.

Ensuring the appropriate level of detail is harder to quantify, but the guide notes that the studies have to withstand review by the FHWA and meet requirements for professional and scientific integrity.

To aid the documentation of the planning study, the guide recommends several resources, including the Planning and Environmental Linkages Questionnaire provided by FHWA, a Corridor Planning Study Checklist created by the Montana Department of Transportation, and a database developed by the North Central Texas Council of Governments to track public and agency comments.

Conclusions and Lessons Learned:- Corridor and subarea level planning studies have become increasingly popular due to the time and monetary savings they provide.

Agencies have realized that, provided they are fastidious in documenting their efforts and comply with NEPA regulations in the planning phase, performing as much of the NEPA analysis in the planning phase as possible is highly beneficial. Eliminating alternatives for transportation or monetary reasons and scaling projects to local needs defined in the

study saves a great deal of time and effort that would have been spent analyzing the environmental impacts of these alternatives. Further time-savings are realized by including appropriate stakeholders at an early stage of the study as less duplication of effort is required when agencies have been involved from the start. The guide concludes by noting that while corridor and subarea level planning studies are not the only way to link planning and NEPA, they do provide substantial benefits to agencies involved in transportation planning and the environmental review process.

CONCLUSIONS

The literature review provided a broad understanding of how and why transportation planning and the NEPA process should be linked, but it did not provide many of the specific details, for example checklists, flowcharts, specific diagrams or, even legislation, a transportation planner or environmental reviewer would need. The review revealed that multiple states have taken the initiative and attempted to link their NEPA and transportation planning processes going back to the late 1990's and early 2000's. Texas has also undertaken significant strides to streamline its NEPA process and Senate Bill 1420 in the 82nd Regular Legislative Session also now requires TxDOT and the MPOs to further streamline their NEPA procedures and amend their planning procedures. However, TxDOT has still not developed a policy or program for linking planning and NEPA. The experiences of other states that have linked their planning and NEPA processes as discussed in this memorandum could inform Texas's development of a program to link transportation planning and NEPA more efficiently. Furthermore, the promising results experienced by some of these states indicate that linking planning and

NEPA can be a cost effective and beneficial practice. Strategies the literature review has indicated may be helpful include:

1. the introduction of decision points requiring the support of all stakeholders,
2. cross-training of planners and environmental reviewers,
3. adopting more corridor or sub-area plans as opposed to state wide plans and tier NEPA documents accordingly,
4. early stakeholder involvement through committees, and
5. providing checklists or detailed manuals outlining the decision-making process

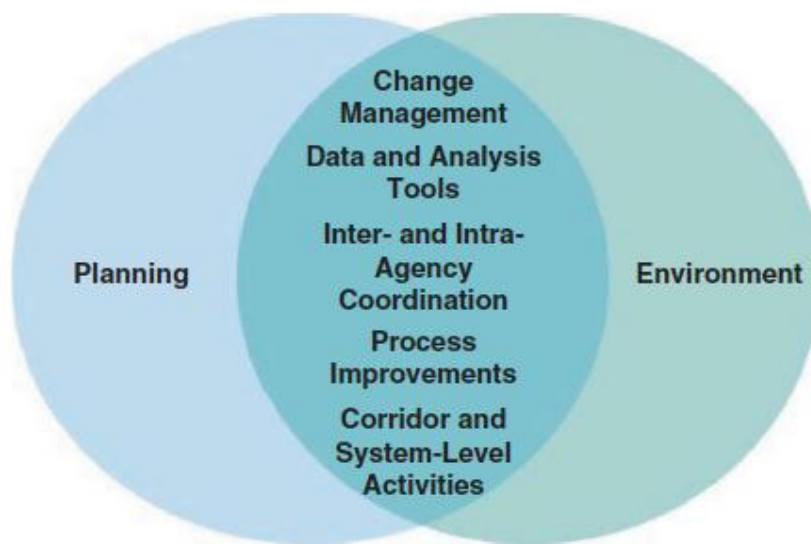


Figure 9: Techniques to Link Planning and NEPA Process

Source: FHWA Planning and Environmental Linkages, 2011

Chapter 4: Legal review

INTRODUCTION

The legal review was conducted by Lisa Loftus-Otway from the Center of Transportation Research as part of TxDOT project 0-6701. It is included here as background and reference material and because it contributed to the development of the thesis.

Background and History of NEPA

The National Environmental Policy Act (PL 91-190) (NEPA) 42 USC §4331 was implemented in 1970 when President Nixon signed it into law. Title I of this act requires that federal agencies integrate environmental values into decision making processes using a systematic, interdisciplinary approach that considers the environmental impacts of proposed agency actions and reasonable alternatives for those actions. It should be noted that NEPA does not apply to the President, Congress or Federal Courts. NEPA also established the Council on Environmental Quality (CEQ) within the Executive Office of the President. CEQ was also given additional responsibilities under the Environmental Quality Improvement Act of 1970. CEQ oversees federal agency implementation of environmental impact assessment, and also acts as a referee if agencies disagree over the adequacy of assessments.

In 1978 CEQ issued binding regulations that set out the requirements necessary for agencies to fulfill their NEPA obligations (CEQ, 2007). As part of this they also required agencies to develop and create their own procedures to supplement the requirements

based on the agencies mandates, obligations and missions. CEQ has issues regulations over the past twenty years regarding implementing NEPA, the environmental impact statement and specific elements required within this, the record of decision and agency decision making, agency compliance, and terminology. CEQ guidance has included multiple memorandums over the 40 years since NEPA enactment, examples include:

Table 2: CEQ Guidance

Guidance Title	Year
Environmental review pursuant to the Safe Drinking Water Act of 1974	1974
Implementation of Executive Orders 11988 flood plain management & 11990 protection of wetlands	1978
NEPA liaisons – agency implementing procedures	1979
Interagency consultation to avoid or mitigate adverse effects on rivers in nationwide inventory	1980
Forty most asked questions concerning CEQs NEPA regulations	1981
Guidance on regarding NEPA regulations	1983
Guidance on NEPA analysis for transboundary impacts	1997
Environmental justice guidance under NEPA	1997
Designation of non-federal agencies to be cooperating agency in implementing procedural requirements of NEPA	2000
Cooperating agencies in implementing the procedural requirements of NEPA	2002

Exchange of letters with Secretary of Transportation: Purpose and Need	2003
Guidance on consideration of past actions in cumulative effects analysis	2005
CEQ and OMB memorandum on environmental conflict resolutions	2005
CEQ, OSTP and OMB memo on national environmental status trends and indicators	2008
Reporting on NEPA status for projects receiving American Recovery and Reinvestment Act funding	2009
Establishing, applying and revising categorical exclusions	2010
Appropriate use of mitigation and monitoring and appropriate use of mitigated findings of no significant impact	2011

Source: CEQ

NEPA Process

Once an agency has developed a proposed action, it will enter into an analytical approach to determine whether the agency will conduct one of three processing and environmental documentation options under NEPA that depend upon whether or not an undertaking significantly affects the environment. These three options include: categorical exclusion (CE); environmental assessment (EA); and environmental impact statement (EIS). The NEPA process is outlined in Figure 10

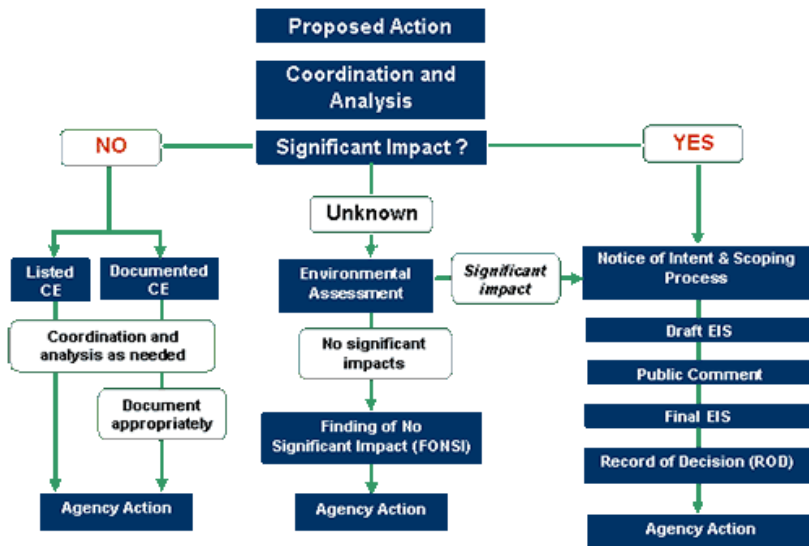


Figure 10: The NEPA Process

Source: AASHTO, NEPA Process

Categorical Exclusions (CE) – are a category of activity that the agency determines does not individually or cumulatively have a significant effect on the quality of the human environment. The agency must check to ensure that no extraordinary circumstances exist that can cause the proposed action to have a significant effect in a particular situation. These could include effects to/on endangered species and wetlands, or protected cultural sites. If there are no such effects the agency can proceed with the action, after posting notice of the action in the federal register. If the proposed activity does not fall in the CE list then the agency must prepare either an Environmental Assessment (EA) or Environmental Impact Statement (EIS).

Environmental Assessments (EA) – are required to determine the significance of the environmental effects and look at any alternatives that can be undertaken to achieve an agency’s objective. The EA is usually a concise document and must provide sufficient analysis and evidence to determine whether to prepare an EIS.

Environmental Impact Statements (EIS) – are required when the activity proposed is a major federal action that will significantly affect the quality of the human environment. There are multiple requirements for an EIS compared to a CE or EA. Key elements within the EIS include the purpose and need statement, identification and analysis of alternatives that could meet the purpose and need of the proposed action, and analysis of direct, indirect and cumulative impacts.

CEQ GUIDANCE ON CONDUCTING SPECIFIC ELEMENTS IN NEPA REVIEWS

Purpose and Need

In 2003 CEQ exchanged letters with the Secretary of Transportation on purpose and need (P&N). The Secretary of Transportation, as chairman of the interagency transportation infrastructure streamlining task force, sought guidance on two questions relating to P&N. The first question was on the role of the lead agency under NEPA in reviewing P&N. The second question was on the appropriate role of cooperating agencies in reviewing the P&N for a project (CEQ, 2003 a).

The Chair of CEQ replied on May 12, 2003 (CEQ, 2003 b), that the requirement for discussion of P&N in an EIS, is to briefly specify the underlying P&N to which the

agency is responding in its proposed alternatives, including the proposed action. This takes the form typically of one to two paragraphs, and is important for general context and understanding the framework for which reasonable alternatives will be identified. The lead agency has the authority to define the P&N for NEPA analysis. This is consistent with the lead agency's responsibilities for the entire NEPA process for scope, objectivity, and content of the statement according to 42 U.S.C. §4332 (D) and 40 CFR §1501.5 and 1506.5.

The Chair of CEQ noted that in situations that involve two or more agencies that have a decision to make for a proposed activity, it is prudent to jointly develop a P&N statement that can be utilized by both agencies. This can also prevent problems later on that may delay the NEPA process. In the case of a proposal to address transportation needs, CEQ responded that joint lead or cooperating agencies should afford substantial deference to the DOT agency's articulation of purpose and need. However, if a cooperating or joint led agency identifies substantive or procedural problems with the P&N – including any omission of factors – these should be immediately raised, and, if necessary, elevated to a higher level of decision makers for resolution.

Cumulative Effects Analysis

CEQ issued guidance in 2005 on the extent to which agencies of the federal government are required to analyze the environmental effects of past actions when they describe the cumulative effect of a proposed action in accordance with Section 102 of NEPA and CEQ regulations for implementing procedural provisions of NEPA at 40 CFR Parts 1500-1508 (CEQ, 2005). The environmental analysis required under NEPA is forward-

looking, focusing on potential impacts of proposed actions. Review of past actions – cumulative effects analysis (CEA) is required to the extent it informs the decision making process. CEQ notes that CEA can occur in two ways.

1. Effects of past actions warrant consideration in the analysis, as they are relevant to analyzing reasonably foreseeable effects that the proposed action may induce and that may have a continuing additive and significant relationship to those effects. CEQ requires the cumulative effects analysis as a concise description of identifiable present effects of past actions. To determine the information necessary for this analysis agencies should use scoping to focus on the extent to which information is relevant to reasonably foreseeable significant adverse impacts and is essential to a reasoned choice among alternatives, and can be obtained without exorbitant cost. Agencies are not required to list or analyze the effects of individual past actions, unless this is necessary to describe the cumulative effect of all past actions combined. Agencies are given considerable discretion to the extent and inquiry and appropriate level of explanation. Generally, according to CEQ agencies conduct an adequate CEA by focusing on current aggregate effects of past actions but do not delve into historical details of these individual activities.
2. Experience with and information from past direct and indirect effects of activities are also used to illuminate or predict the potential CEA of a direct or indirect effect of a proposed activity. CEQ notes however, that agencies should clearly distinguish analysis of direct and indirect effects based on information about past actions from a CEQ analysis of past actions.

Cumulative impact is also defined in CEQ's NEPA regulations as "impact on the environment that results from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions" (40 CFR §1508.7). CEA should also be guided by the scoping process which should identify significant issues that must be addressed in the EIS. The scoping process should also help the agency to determine what information regarding past actions is useful and relevant for the CEA. Once the agency identifies those present effects of past actions that require consideration, they must assess the extent that these effects of the proposed activity, or its alternatives, will modify, add to or mitigate these effects.

It should be noted that CEQ states that it is not practical to analyze how the cumulative effects of an action interact with the universe. Rather the analysis should focus on the aggregate effects of past, present and reasonably foreseeable future actions that are truly meaningful.

Categorical Exclusions

CEQ's regulations instruct agencies to identify a class of actions, named categorical exclusions or CEs. These are actions which do not individually or cumulatively have a significant effect on the human environment and are excluded from further NEPA review (23 CFR § 771.115(b); 40 CFR § 1507.3(b)(2), 40 CFR § 1508.4). CEs are according to *Clement v. LaHood*, No. 09-1056, 2010 U.S. Dist. LEXIS 42740, 2010 WL 1779701, at *6 (E.D. Va. April 30, 2010) an integral part of the NEPA. Establishing and using CEs

can also reduce excessive paperwork by eliminating unnecessary preparation of environmental impact statements (40 CFR. § 1500.4(p)).

CEQ issued guidance in 2010 (CEQ, 2010) to ensure that agencies use of Categorical Exclusions (CE) was consistent with applicable law and regulations. The guidance only applies to CEs established by Section 1507.3 of the CEQ regulations at 40 CFR §1507.3 and described how to:

- Establish or revise a CE.
- How to use public involvement to help define and substantiate a proposed CE.
- Apply an established CE, and determine when to prepare documentation and involve the public.
- How to conduct period reviews of CEs for quality control purposes.

The guidance noted that since agencies began using CEs in the late 1970's the number and scope of CEs had significantly grown. These are now the most frequently employed method of complying with NEPA and this underscored the need for this guidance on the promulgation and use of CEs. According to CEQ, if used inappropriately,

CEs can thwart NEPA's environmental stewardship goals, by compromising the quality and transparency of agency environmental review and decision making, as well as compromising the opportunity for meaningful public participation and review.

Conditions that warranted a new CE can include:

- Classes of actions that can be categorically excluded because they are not expected to have significant individual or cumulative environmental effects.
- Mission changes in agencies
- Tiering to incorporate findings from NEPA reviews that address broad programs or issues

Conditions that warrant a new or revised CE include those actions of a proposed CE that are found to have a potentially significant environmental affect. In this case, the CE can be either abandoned or revised to eliminate the potential for significant impacts.

CEQ, in prior guidance had also encouraged agencies to consider broadly defined criteria when characterizing types of actions, based on agency experience, that did not cause significant environmental effects, and to offer examples of such activities. Agencies were also urged to consider whether the cumulative effects of multiple small actions would cause sufficient environmental impact to take actions out of the CE class. In the new guidance, CEQ expands upon this and advises agencies that text of new or revised CEs should clearly define the eligible category of actions, as well as any physical, temporal or environmental factors that would constrain its use. The guidance also noted that when proposing new/revised CEs agencies should consider the extraordinary circumstances described in their NEPA procedures to ensure that they account for situations and settings in which a proposed CE should not be applied. The existing extraordinary circumstances documentation should also be reviewed concurrently with the review of CEs. CEQ also notes that substantiating a new or revised CE is not only

good decision making, but also serves as part of the agencies administrative record of their underlying reasoning for the CE. The guidance also provides the process for establishing a new or revised CE. As part of this process it also recommends that agencies should pursue additional opportunities for public involvement beyond publication in the federal register if there is likely to be significant public interest. The final segments of the guidance review how to apply the new or revised CE, and instructions for periodic review of established CEs.

Recent CEQ Guidance

In 2010, as part of NEPA's 40th anniversary, CEQ released guidance and steps to modernize and reinvigorate NEPA (CEQ, 2010). The guidance and steps related to:

1. when and how federal agencies must consider greenhouse gas emissions and climate change in their proposed actions;
2. clarifying the appropriateness of "Findings of No Significant Impact" (FONSI) and specifying when there is a need to monitor environmental mitigation commitments;
3. clarifying the use of categorical exclusions (discussed earlier in this section); and
4. enhanced public tools for reporting on NEPA activities.

In January 2011, CEQ released the final guidance on the appropriate use of mitigation and monitoring and on clarifying the appropriate use of FONSI. The guidance affirmed that:

- agencies should commit to mitigation in decision documents when they have based their environmental analysis on such mitigation (for example by including

appropriate conditions on grants, permits, and other agency approvals, or if they make the funding or approval for implementing the activity contingent on implementation of the mitigation commitment

- agencies should monitor the implementation, and effectiveness of their mitigation commitments
- agencies should make information on mitigation monitoring available to the public, primarily through their website
- agencies should make diligent efforts to make information on mitigation monitoring available to the public
- agencies should remedy ineffective mitigation when there is federal action still to be taken.

The guidance encourages agencies to develop internal processes for post-decision monitoring.

In December 2011 CEQ released draft guidance for federal agencies on improving the efficiency and timeliness of environmental reviews. The draft guidance clarifies opportunities to encourage efficient, throughout environmental reviews. The guidance adds on to existing guidance that describes efficiencies that can be applied when preparing an Environmental Impact Statements, and clarifies that these can be applied to all types of environmental reviews including Environmental Assessments.

Combining Environmental and Planning Documents

According to CEQ's list of NEPA's forty most asked questions (CEQ, 1981), where an EIS or an EA is combined with another project planning document (sometimes called "piggybacking"), the degree that the EIS or EA may refer to and rely upon information in the project document to satisfy NEPA requirements is set out at 40 Code of Federal Regulations (CFR) parts 1500-1508.

40 CFR Section 1501.2 requires that agencies shall integrate the NEPA process with other planning at the earliest possible time. This ensures that planning and decisions reflect environmental values, and it can help to avoid delays and head off potential conflicts. Sub-section (b) requires that Environmental documents and appropriate analyses shall be circulated and reviewed at the same time as other planning documents. Sub-section (d) requires that agencies provide for early application of NEPA in cases where actions are planned by private applicants or non-federal agencies.

40 CFR Section 1502.25 requires that draft EISs be prepared concurrently and integrated with environmental analyses and related surveys and studies required by other federal statutes. In addition, 40 CFR Section 1506.4 allows any/all environmental documents prepared in compliance with NEPA to be combined with any other agency document (ostensibly to reduce duplication and paperwork), but with a side-benefit of enhancing integration of NEPA and planning documents. CEQ notes, however, that "these provisions were not intended to authorize the preparation of a short summary or outline EIS, attached to a detailed project report or land use plan containing the required

environmental impact data.” Therefore, the EIS must stand as an analytical document on its own merit to fully inform decision makers and the public of the environmental effects of the proposed project and reasonable alternatives (40 CFR §1502.1). But, as long as the EIS is clearly identified and is self-supporting, it can be physically included in or attached to the project report or land use plan, and may use attached report material as technical backup.¹

According to CEQ (CEQ, 1981) under some circumstances, a project report or management plan may be totally merged with the EIS, and the document can be labeled as both EIS and management plan. This may be reasonable where the documents are short, or where the EIS format and the regulations for clear, analytical EISs also satisfy the requirements for a project report.

NEPA CASE LAW

Since NEPA’s introduction, a large body of case law regarding the application, administration, and implementation of the law has been developed as communities and non-profit entities have sought to clarify the NEPA processes, especially those regarding the administrative record set by the agency responsible for the different types of environmental assessments undertaken for projects. In the 42 years since its inception, NEPA is still a volatile issue for some communities, a hurdle/process to “tick-the-box” for some agencies, a challenging task for the consultancy community who often conduct

¹ As an example, the Forest Service EISs for forest management plans are handled this way. The EIS identifies the agency's preferred alternative, which is developed in detail as the proposed management plan. The detailed proposed plan accompanies the EIS through the review process, and the documents are appropriately cross-referenced. The proposed plan is useful for EIS readers as an example, to show how one choice of management options translates into effects on natural resources. All the alternatives are discussed in the EIS, which can be read as an independent document. The details of the management plan are not repeated in the EIS, and vice versa. This is a reasonable functional separation of the documents: the EIS contains information relevant to the choice among alternatives; the plan is a detailed description of proposed management activities suitable for use by the land managers.

the environmental assessments for public sector agencies, and a potential avenue to bring environmental justice to some communities. Judge David Bazelon quite sarcastically foretold how the next 41 years of NEPA jurisprudence would be viewed by many, when he heralded in *Environmental Defense Fund v. Ruckelshaus*, 439 F2d. 584 (1971) “...the beginning of a new era in the... long and fruitful collaboration of administrative agencies and reviewing courts...”. CEQ has conducted litigation surveys since 2001 (CEQ website). In 2009 (latest data available), for example there were 97 cases filed, with 23 injunctions and remands issued. The majority of the cases were brought by public interest groups and individual citizen associations. FHWA saw 12 cases filed with 2 injunctions/remands issued. Case dispositions over all federal agencies broke down thus:

Table 3: NEPA Case Dispositions

Judgment for Defendant	76
Dismissal without settlement	24
Settlement	22
Adverse dispositions	23
TRO	0
Preliminary Injunction	2
Permanent Injunction	15
Remand	6
Case Pending	271

Source: CEQ, 2009

The basis for NEPA decisions was even more complex. Table 4 shows how the case dispositions broke down.

Table 4: Basis of NEPA Dispositions

Jurisdictional – P Prevailed	0
Jurisdictional – D Prevailed	20
NEPA not required	2
NEPA is required	2
CE adequate	5
CE not adequate	0
EA adequate	23
EA not adequate	5
EIS adequate	21
EIS not adequate	20
SEIS needed	3
SEIS not needed	3

Source: CEQ, 2009

Many authors have noted the complex and sometimes arduous situation of many agencies who conduct NEPA evaluations. The EPA’s handling of NEPA, for example, has been impacted by numerous organizational reforms by the Congress, often involving ambitious regulatory programs without much guidance on how to establish priorities among major programs. Rosenbaum (2003) argues that the EPA has been treated by Congress “with

almost schizophrenic inconsistency”, leading to conflicting agendas, over-emphasized priorities, and a lack of consistency over the years. Other authors have also criticized the judicial deference and assumptions about the behavior of agencies. Cohen, for example, argues that a “Lack of judicial enforcement of NEPA's substantive provisions perpetuates agency behavior that is inconsistent with the national environmental policy set forth in NEPA's opening section...” (Cohen, 2010).

Consultants have also commented that State DOTs often find themselves in the precarious situation of having to satisfy multiple stakeholders while navigating political viewpoints and community concerns, and ensure documentation is developed that is legally sufficient, which often involves reworking documentation that some local jurisdictions have prepared insufficiently.

The ever-evolving litigation has also provided for environmental justice (EJ) concerns to be litigated under NEPA. As an example, a slew of EJ cases are now utilizing the rubric of NEPA, after the Supreme Court in *Sandoval* in 2001, (*Alexander v. Sandoval*, 532 U.S. 275, 282 (2001) limited the avenues under which an EJ community could bring a typical civil rights suit². Suits brought by EJ communities are currently pending in district and federal courts regarding transportation agency (MPO and DOT) planning and decision making processes; segmented environmental impact assessments for highways, tollways, transit and light rail; and agency transportation funding allocations. As discussed by Prozzi et al in a forthcoming TXDOT report entitled “Assessing the

² By holding that plaintiffs did not have a private right of action under Title VI of the Civil Rights Act 1964 to enforce disparate impact regulations promulgated by a federal grant recipient's program.

Environmental Justice Impacts of Toll Road Projects”, the sophistication of the NEPA/EJ plaintiff is evolving (Prozzi et al, 2012).

AASHTO’s Center for Environmental Excellence Case Law Updates on the Environment (CLUE) website provides a storehouse for tracking case law on the environment. The database primarily includes court decisions involving challenges to environmental reviews and permits for highway, aviation, rail and transit projects (AASHTO, CLUE). Table 5 lists selected cases decided over the past eleven years specifically on highway/road and some rail projects.

Table 5: Transportation NEPA Case Law Selected Judgments Since 2000

Sierra Club v. FHWA (2011)	Southeast Alaska Conservation Council v. FHA
Vill. Of Barrington v. Surface Transportation Board (2011)	West v. Horner (2011)
Preservation Pittsburg v. Conturo (2011)	Blair v. Cal State DOT (2011)
Aquifer Guardians in Urban Areas v. FHWA (2011)	Friends of Congaree Swamp v. FHWA (2011)
Cronin v. Ohio DOT (2011)	N.C. Wildlife Federation v. NCDOT (2011)
Clement v. LaHood (2010)	Hamilton v USDOT (2010)
Slockish v FHA (2010)	Latin Americans for Social and Economic Development v. FHA (2010)

Table 5 (continued)

Karst Environmental Education and Protection, Inc v FHA (2010)	League of Wilderness Defenders Blue Mountain Biodiversity Project v. Allen (2010)
Prairie Band Potawatomie Nation v. FHWA (2010)	NC Alliance for Transportation Reform v. USDOT (2010)
Rohnert Park Citizens to Enforce CEQA v. USDOT (2010)	Citizens for Smart Growth v. Peters (2010)
Sierra Club v. FHWA (2010)	Medina County Environmental Action Association v. Surface Transportation Board (2010)
Clement v. LaHood (2010)	Sierra Club North Star Chapter v. Peters (2010)
Highway J Citizens Group v. USDOT (2010)	River Fields V. Peters (2009)
Shenandoah Valley Network v. Capka (2009)	Rohnert Park Citizens to Enforce CEQA v. USDOT (2009)
Virginians for Appropriate Roads v. Capka (2009)	North Idaho Community Action Network v. USDOT (2008)
Pearson v. USDOT (2009)	Northwest Bypass group v. U.S. Army Corps of Engineers (2008)
Concerned Citizens of Chappaqua v. USDOT (2008)	Hoosier Environmental Council v. USDOT (2007)
Rivers Unlimited v. USDOT (2008)	Audubon Naturalist Society of the Central

Table 5 (continued)

	U.S. V. USDOT (2007)
Ware v. FHWA (2007)	Conservation Law Foundation v. FHWA (2007)
Jones v. Peters (2007)	Karst Environmental Education and Protection, Inc. V. EPA (2007)
Friends of Maqurewock, Inc. v. US. Army Corps of Engineers (2007)	Merrit Parkway Conservancy V. Mineta (2005)
City of Clarkson Valley v. Mineta (2006)	Friends of Marolt Park v. USDOT (2004)
Stewart Park and Reserve Coalition v. Slater (20005)	Valley Community Preservation Community v. Mineta (2004)
Citizens again the Pellissippi Parkway Extension, Inc v. Mineta (2004)	One Thousand Friends of Iowa v. Mineta (2004)
Senville v. Peters (20040)	Piedmont Environmental Council v. USDOT (2003)
Green/Guilford Environmental Association v. Wykle (2004)	Sierra Cluv v. U.S. Army Corps of Engineers (2002)
Utahn's for Better Transportation v. USDOT (2002)	Southwest Williamson County Community Association v. Slater (2001)
Wilds v. SCDOT (2001)	West v. Sec'y of DOT (2000)
National Parks and Conservation Association v. USDOT (2000)	

Source: Developed from AASHTO CLUE Database and Lexis-Nexis and Westlaw

CASE LAW ANALYSIS

This next section discussed specific areas that case law has developed and determined, including tests the courts have developed to determine whether certain aspects of NEPA decision making have been fulfilled. As an example, the courts have determined a four part test to determine whether an agency has improperly segmented a major federal action into smaller components to escape the application of NEPA (*Save Barton Creek Ass'n v. FHWA*, 950 F.2d 1120, 1140 (5th Cir., 1992)). This section focusses for the most part on decisions made in the last two to three years to reduce repetitiveness and to keep this section as short and readable as possible. The section also focuses on specific areas within the NEPA review process that have been litigated, for example purpose and need, alternatives analysis, cumulative impacts.

NEPA imposes procedural requirements on federal agencies that requires' them to analyze the environmental impact of their proposals and actions *Coliseum Square Ass'n, Inc. v. Jackson*, 465 F.3d 215, 224 (5th Cir. 2006). As noted earlier, NEPA was created to ensure that agencies will base decisions on detailed information regarding significant environmental impacts, as part of this they are required to ensure that that information they develop and utilize will be available to concerned public and private actors. NEPA however, is a strictly procedural statute and does not mandate that the agency reach any particular conclusion, rather NEPA was created to ensure that agencies will engage in an environmentally conscious process, not necessarily reach the most environmentally friendly result *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350, 109 S. Ct. 1835, 104 L. Ed. 2d 351 (1989).

NEPA directs federal agencies to prepare an EIS when they engage in major Federal actions significantly affecting the quality of the human environment (42 U.S.C. § 4332(2)(C)). The EIS must include:

- the environmental impact of the proposed action,
- any adverse environmental effects which cannot be avoided should the proposal be implemented,
- alternatives to the proposed action,
- the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Once an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223, 227, 100 S. Ct. 497, 62 L. Ed. 2d 433 (1980). The court in *Westphal*, 230 F.3d at 174 (5th Cir. 2000) developed three criteria for reviewing the adequacy of an environmental impact statement:

1. whether the agency in good faith objectively has taken a hard look at the environmental consequences of a proposed action and alternatives;

2. whether the EIS provides detail sufficient to allow those who did not participate in its preparation to understand and consider the pertinent environmental influences involved; and
3. whether the EIS explanation of alternatives is sufficient to permit a reasoned choice among different courses of action.

In addition, the conclusions upon which an EIS is based must be supported by the evidence in the administrative record (Id. at 174-75).

Federal Courts have jurisdiction over NEPA challenges under the Administrative Procedures Act (APA). The reviewing court can overturn agency action when it is arbitrary and capricious, an abuse of discretion, or is otherwise not in accordance with the law 5 U.S.C. §706(2)(a). When deciding whether an agency's ruling is arbitrary and capricious, the court must consider if the decision was based upon consideration of relevant factors, and whether there has been a clear error of judgment (*Marsh v. Or. Nat'l Res. Council*, 490 U.S. 360, 377-78, 109 S. Ct. 1851, 104 L. Ed. 2d 377 (1989)). While the court's enquiry should be search and careful, according to *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416, 91 S. Ct. 814, 28 L. Ed. 2d 136 (1971)), the standard of review is a narrow one. The court cannot substitute its own judgment for that of an agency, and only needs to determine if the agency adequately reviewed the issue (*Neighbors Organized to Insure a Sound Env't, Inc., v. McArtor*, 878 F.2d 174, 178 (6th Cir. 1989)). Agencies are given a large amount of leeway regarding scientific matters within its area of expertise according to *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d

554, 560, 351 U.S. App. D.C. 42 (D.C. Cir. 2002). If experts disagree on the technical conclusions, the court must defer to the agency's qualified experts, even if, as an original matter the court may find the contrary (plaintiff) views more persuasive *Marsh v. Or. Nat'l Res. Council*, 490 U.S. 360, 377-78, 109 S. Ct. 1851, 104 L. Ed. 2d 377 (1989)).

Purpose and Need

As part of the development of the EIS the agency must develop a Purpose and Need statement – usually one to two paragraphs – that details the rationale for the project including the underlying P&N to which the agency is responding in its proposed alternatives, including the proposed action. According to CEQ's exchange of letters with the Secretary of Transportation in 2003 (CEQ, 2003 b),

Federal courts generally have been deferential in their review of a lead agency's "purpose and need" statements, absent a finding that an agency acted in an arbitrary or capricious manner. They have recognized that federal agencies should respect the role of local and state authorities in the transportation planning process and appropriately reflect the results of that process in the federal agency's NEPA analysis of purpose and need. *North Buckhead Civic Assoc. v. Skinner*, 903 F.2d 1533 (11th Cir. 1990). Courts have cautioned agencies not to put forward a purpose and need statement that is so narrow as to "define competing 'reasonable alternatives' out of consideration (and even out of existence)", *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997); (see also, *Alaska Wilderness Recreation and Tourism Association v. Morrison*, 67 F.3d 723 (9th Cir. 1995)).

Under NEPA agencies must look hard at the factors relevant to the definition of purpose
Citizens Against Burlington, Inc. v. Busey, (Burlington) 938 F.2d 190, 196, 290 U.S.
App. D.C. 371 (D.C. Cir. 1991) . According to Burlington

[A]n agency may not define the objectives of its action in terms so unreasonably
narrow that only one alternative from among the environmentally benign ones in
the agency's power would accomplish the goals of the agency's action, and the
EIS would become a foreordained formality.

The agency also cannot frame its goals in terms so unreasonably broad that an infinite
number of alternatives would accomplish those goals and the project would collapse
under the weight of the possibilities. The fifth circuit in an early NEPA decision in 1974
held that an agency may prefer one alternative from the outset, but must proceed to
perform its environmental tasks with . . . good faith objectivity. *Envtl. Def. Fund, Inc. v.*
Corps of Eng'rs of the U.S. Army, 492 F.2d 1123, 1129 (5th Cir. 1974).

Recent case law has taken similar stands, for example in *Sierra Club & Houston*
Audubon v. FHA, 435 Fed. Appx. 368; 2011 U.S. App. Lexis 16066 (August 2, 2011) the
court held that the purpose and need statement was not so narrow that it foreclosed
consideration of reasonable alternatives. In this instance the FEIS identified four
objectives in its purpose and need statement: (1) system linkage; (2) expanded capacity;
(3) increased safety; and (4) economic development. The appellants claimed that these

objectives were “too narrow because the No-Build alternative could not possibly satisfy them, and therefore the Agencies did not fully consider the No-Build alternative.” The court disagreed, noting that the FEIS fully considered several options under the No-Build alternative, and it assessed whether each of those options would satisfy the purposes of the project.

In 2011’s *N.C. Wildlife Fed’n v. N.C. DOT* (NCWF) 2011 U.S. Dist. Lexis 123085 case plaintiffs contended that defendants formulated an overly narrow statement of P&N, which restricted the consideration of any alternatives to a new location toll highway and reached a pre-ordained result. The court found that the project’s Statement of Purpose and Need belies plaintiffs’ argument *Id* at 36. Noting that while plaintiffs argue that the “...Statement of Purpose and Need does not look at underlying transportation needs in the study area, the court is hard-pressed to understand how “improv[ing] mobility and capacity within the project study area by providing a facility . . . that allows for high-speed regional travel” does not do just that.”

The court noted that while “... Plaintiffs would have preferred a differently worded Statement of Purpose and Need. In fact, they offer an alternative in their brief. However, “[t]he statement of a project’s purpose and need is left to the agency’s expertise and discretion, and [courts] defer to the agency if the statement is reasonable.” *Alliance for Legal Action v. Fed. Aviation Admin.*, 69 F. App’x 617, 622 (4th Cir. 2003) (per curiam) (unpublished). Here, defendants’ Statement of Purpose and Need is reasonable, and plaintiffs have failed to prove otherwise.” *Id* at 37.

Administrative Record

In *Latin Americans for Social and Economic Development v. FHWA* 2010 U. S. Dist. LEXIS 84582 (August 18, 2010), the court reviewed the administrative record of a proposed international bridge crossing in the Delray community in Detroit. The plaintiffs claimed that defendants failed to comply with NEPA when they issued the ROD. The court found that it could not grant the plaintiffs motion for discovery, because it was unable at this time to make an informed decision due to the current state of the Administrative Record (AR) which it held was insufficient. During a status conference in early 2010 FHWA stated it wanted to amend the AR. A new certified AR was supplied on April, 16 2010, and errata sheets were filed on April 22, 2010. This was contained on 14 DVD's, divided into three indices "with no discernible organizational structure". The court also noted that FHWA had given the court "little detail regarding its methodology in compiling the AR. It states "[t]he AR includes the DEIS, the FEIS, and the ROD" along with "approximately 130,000 pages of emails, notes, reports, records of meetings, and other materials." It does not explain how it selected which emails, notes, reports, records of meetings, and other materials would be included in the AR and which would be excluded." *Id* at 5. The court also discussed how plaintiff had also not provided insight into the protocol used by FHWA to produce the first certified AR, although they had provided some insight into the compilation of the supplemented record that was submitted on April 16th.

The court detailed its understanding of the protocol for compiling an AR. The APA does not define the contents of an AR. Several courts, however, have defined the AR as:

...all documents and materials directly or indirectly considered by the agency.”

(*Bar MK Ranches v. Yuetter*, 994 F.2d 735, 739 (10th Cir. 1993); see also *Maritel Inc. v. Collins*, 422 F. Supp. 2d 188, 196 (D.D.C. 2006)). The court noted that “...neither the NEPA nor Section 4(f) provides agencies with guidance on compiling an AR. See 42 USC §7607(d)(7)(A) (describing process for compiling AR in Clean Air Act cases); 42 USC §9613(j),(k) (describing process in Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) cases). Nor is there any guidance in the Code of Federal Regulations. But cf. 40 CFR §300.800-825 (providing guidance on compiling AR in Superfund cases); 40 CFR Part 24 (describing process in Resource Conservation and Recovery Act cases). Moreover the Court is unaware of any internal FHWA guidance documents regarding the compilation of an AR.... However, there are a number of other government guidance documents addressing the compilation of an AR, including those of the Department of the Interior and the Environmental and Natural Resources Division of the Department of Justice. In the absence of laws, regulations, or policies that might bind the FHWA, these documents may be considered "best practices" guidelines for compiling an AR.

The Department of Interior guidance for example notes that an AR should include substantive information that was presented to, relied on, or reasonably available to the decision-maker (DOI, 2006). The Department of Justice suggests that an agency appoint

a single person to compile the administrative record.³ The court in summing up noted that the:

... guidance documents encourage an expansive interpretation of the phrase all documents and materials directly or indirectly considered by the agency. The only documents that should be excluded from the record are those that are irrelevant to the challenged decision, those which were not in the agency's possession at the time the decision was made, personal notes, and privileged information. Given the complexity of NEPA cases and the expansive records that are generally produced, complete compliance with these guidance documents is virtually impossible. However, careful analysis of an agency's protocol for compiling a record may be helpful in determining whether whole classes of documents were incorrectly excluded from the record". Id at 14-15.

In its analysis the court noted that based on the information supplied by FHWA the court was not in a position to make a decision regarding the completeness of the AR. While the FHWA asserted that the certified AR contains the grounds for FHWA's decision and the 'universe of materials that informed the agencies decision', in the courts view, FHWA provided no guidance as to the process by which it was compiled. Until FHWA describes the process by which the AR was compiled the court cannot determine/assess whether the process was sufficient and whether the FHWA is entitled to a presumption of regularity. The court noted that further "...the current state of the AR renders it virtually

³ This person should also liaise with the transportation planning agency to ensure that they produce material that can be sufficient to insert into the EA/EIS that is compiled into the AR.

impenetrable.” The Court's ultimate task in this case is to determine whether the ROD should be set aside as an arbitrary and capricious decision. To do so, the court must determine whether the FHWA complied with the procedures set forth in NEPA and Section 4(f) by engaging in a “thorough, probing, in depth” review of the AR. FHWA has provided “... an index en mass to the AR comprising three volumes and 435 pages. There is no discernable organizational structure as to the dates, types of documents, or subject matter of the materials included in the AR.” Further, there is nothing in the indices to indicate the DVD on which a given document is located. The Court is not in a position to engage in a “thorough, probing, in-depth review” of the AR if it cannot effectively identify and locate relevant documents within the record.

Arbitrary and Capricious Decision Making

Challenges to an agency's compliance with the NEPA are reviewed under standards set forth in the Administrative Procedure Act (APA). Under the APA, the agency's decision may be set aside only if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C.S. § 706(2)(A). In making the determination concerning whether an agency decision was arbitrary or capricious, a reviewing court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. Under this standard, the court must assure itself that the agency (i) considered the relevant factors in making its decision, (ii) its action bears a rational relationship to the statute's purposes, and (iii) there is substantial evidence in the record to support it. The court we cannot substitute its judgment for that of the agency *Pub. Citizen, Inc. v. U.S. E.P.A.*, 343 F.3d 449, 455 (5th Cir. 2003). Case law over the past forty years has found both for and against plaintiff. While the courts do

give extreme deference to agency decision, they do undertake a rigorous assessment of the relevant factors, and will often note that while they find for the defendant agency, plaintiff's experts may often provide clarification and analysis that the court considers is well reasoned and persuasive.

In NEPA review cases the plaintiff bears the burden to prove that an agency's decision was arbitrary or capricious (*Medina Cnty. Env'tl. Action Ass'n v. Surface Transp. Bd.*, (Medina) 602 F.3d 687, 699 (5th Cir. 2010). All NEPA cases focus on this aspect of procedure.

In *Southeast Alaska Conservation Council v. FHA* (649 F.3d 1050, 2011 U.S. App. Lexis 9097, 72 ERC (BNA) 1705, 41 ELR 20169) however, the 9th circuit court found that that EIS failed to satisfy NEPA requirements to consider proposed alternatives including improvement of ferry services using existing resources which was a reasonable alternative. Because FHWA failed to consider reassigning vessels as a project alternative, and the EIS failed to examine a viable and reasonable alternative, and didn't provide justification for this omission the EIS was held to violate NEPA. The court noted in its discussion that "...We have repeatedly recognized that if the agency fails to consider a viable or reasonable alternative, the EIS is inadequate." Citing *Friends of Yosemite Valley v. Kempthorne*, 520 F.3d 1024, 1038 (9th Cir. 2008) and *"Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1095 (9th Cir. 2006). In this case the existence of a viable but unexamined alternative rendered the EIS inadequate. The court noted the final EIS's explanation of FHWA's consideration of a No Action Alternative was cursory. "...Three

brief paragraphs first describe the No Action Alternative as an updated 1997 plan for ferry usage, then assert that using more ferries would reduce service elsewhere (without explaining the comparative needs for such services) and finally note that under the No Action Alternative AMHS could add ferries in the future but would not build anything.” This explanation does not represent the substantial treatment required by NEPA’s implementing regulations to any non-construction alternatives (Id at pp 1058). The court found that FHWA’s justifications for not considering a proposed alternative was arbitrary, because “all of the alternatives that were considered in the EIS, particularly Alternative 2B, posed the same risks” (Id at pp 1057).

In Medina, the 5th circuit court of appeals held that because development of the tract would not depend on the proposed rail, the tract did not qualify as an interrelated action and a refusal to consider development of the entire tract as an interrelated action did not render the decision arbitrary and capricious. Here the plaintiff argued that STB’s decision was arbitrary and capricious because it relied on a biological assessment that assessed only the proposed rail and Phase One area. STB countered however, that the scope of the biological assessment was appropriate because it encompassed only those actions associated with the proposed rail that were reasonably certain to occur Id at 699.

In Bair v. Caltrans (2011 U.S. Dist, Lexis, 72294; 41 ELR 20242 July 6, 2011 Filed) the United States District Court for the Northern District of California, held in favor of plaintiffs and issued a preliminary injunction to stop development of a highway through old growth redwood trees on the basis that the EA was arbitrary and capricious. In this

case the decision to widen Highway 101 from 22 feet up to a maximum realignment of the centerline by 17 feet was alleged by the plaintiff to have adverse effects on the redwoods whose roots are shallow require a loose aerated soil, and cannot be cut without suffering damage. The EA prepared by Caltrans proposed as part of the mitigation plan to cut and water some roots, and use an air spade to clear dirt away. The EA noted that construction around redwood roots has the most potential to result in impacts to trees and that the project would be likely to adversely affect the spotted owl. When the draft EA was released by Caltrans they received hundreds of letters of protest. In response Caltrans changed its proposal which ended up more than doubling the estimate of trees whose root structures might be adversely impacted. Further opposition ensued, yet Caltrans issued a Finding of No Significant Impact (FONSI) for the project.

Plaintiff's filed suit arguing that Caltrans violated NEPA by failing to

(1) establish the need and purpose for the project, (2) disclose and evaluate the significant environmental effects, (3) explore and evaluate reasonable alternatives to the project, (4) adequately document public comments and concerns and responses to those comments, and (5) prepare an environmental impact statement.

Plaintiffs also allege that Caltrans violated Section 4(f) of the Department of Transportation Act by failing to determine that no alternatives existed and by failing to create a plan that would minimize harm. In not consulting with the National Park Service concerning the effects of relocating the retaining wall closer to the Eel River, defendants allegedly violated Section 7 of the Wild and Scenic Rivers Act. The Administrative Procedure Act was violated, it is said, by

approving and adopting an EA/FONSI contrary to NEPA and Section 4(f) standards.” Id at 7-8.

The court in reviewing the actions and activities held that plaintiffs had demonstrated that irreparable harm is likely and there were serious questions on the merit of whether a full EIS was needed. The court noted that agencies cannot avoid preparing an EIS by making conclusory assertions that an activity will have only an insignificant impact on the environment. Here the court found there “...is too much evidence, however, that the impact would be significant...” and because Caltrans proposed activities within the root zones of redwoods, there was reason to believe there would be a significant injury. The court noted that plaintiffs had shown inconsistencies in the EA's data analysis that might be found “so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” (Lands Council, 537 F.3d at 987). Not only did the EA allegedly not map all the trees where the construction would occur -- including a redwood with a 91-inch diameter -- but it miscalculated the diameters of several trees on the map. According to the court “Such discrepancies are not merely differences in methodology for which deference would be given to agency experts. They are examples raising serious questions about whether defendants truly took a "hard look" at the effects of the project.”

Cumulative Impacts

NEPA requires federal agencies to evaluate the direct, indirect, and cumulative impacts of their actions § 1502.2, 1502.16(a)-(b). Direct and indirect impacts are both caused by the federal action (40 CFR § 1508.8(b)), while a cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other

past, present, and reasonably foreseeable future actions (40 CFR § 1508.7). Despite these demands, the FEIS need not dream up every possible impact of the agency action to satisfy NEPA; instead, non-significant issues merit only a brief discussion in the FEIS demonstrating why further study is unwarranted (40 CFR § 1502.2(b)). In *Karst Environmental Education and Protection, Inc v. FHWA* 2011 U.S. Dist. LEXIS 126925, November 2, 2011 (KARST) the court noted that “Ultimately, it is not the court's role to substitute [its] judgment of the environmental impact for the judgment of the agency, once the agency has adequately studied the issue” *Crounse Corp. v. Interstate Commerce Comm'n*, 781 F.2d 1176, 1193 (6th Cir. 1986). The court noted that if the agency has taken a hard look at the environmental consequences of its action, then the court should end its inquiry and uphold the FEIS. See *id.* (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21, 96 S. Ct. 2718, 49 L. Ed. 2d 576 (1976)).

In *Highway J Citizens Group v. United States* 656 F. Supp. 2d 868, 2009 U.S. Dist. LEXIS 84205 (E.D. Wis., 2009) the court held that the defendants were found to have acted arbitrarily and capriciously in approving a highway expansion project in Southeastern Wisconsin. The court held that defendants violated NEPA by failing to prepare an adequate EIS before approving the Highway 164 project. The court found that the EIS was deficient in the following aspects: (1) inadequate discussion of indirect effects, (2) inadequate discussion of cumulative effects, and (3) inadequate discussion of reasonable alternatives. The court vacated the agencies’ decisions and ordered them to comply with NEPA and reconsider their decisions.

During 2010 defendants ask that the court reconsider these conclusions Highway J Citizens Group v. United States DOT 2010 U.S. Dist. LEXIS 27297. In the motion for reconsideration defendants argued that chapter 3 of the EIS supplied the missing analysis on indirect effects. However the court noted that it does not discuss how that environment might be affected by the expansion to four lanes, and therefore does not cure the defects found in the prior decision. Turning to the cumulative impacts, the defendants argue that the FHWA has no ability to prevent urbanization or sprawl and relying on the Supreme Court decision in *Department of Transportation v. Public Citizen*, 541 U.S. 752, 124 S. Ct. 2204, 159 L. Ed. 2d 60 (2004), they argued that an agency need not analyze a cumulative effect in an EIS if the agency has no ability to prevent it. The court found that in making this argument, the defendants made the same error that made the EIS deficient in the first instance by assuming with no analysis that their decision will not impact urbanization/sprawl. The court held that this is the precise issue that the defendants must examine before they can “be said to have performed a satisfactory analysis of cumulative effects”. The court found that the defendants cannot simply assume that their actions will have no effect on these phenomena. “If defendants take a hard look at this issue and determine that their actions will have no effect on urbanization/sprawl (and the environmental impacts associated with these phenomena), they may discharge their obligations under NEPA by explaining why this is so. If, on the other hand, defendants conclude that their actions contribute to urbanization and its associated environmental effects, then they must attempt to assess the incremental impact of their decisions on such phenomena so that agency decision makers can take this impact into account when deciding whether to implement the project.” *Id* at 11.

Indirect Impacts

NEPA requires agencies to analyze indirect effects. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR § 1508.8(b)).

In the NCWF case mentioned earlier, court reviewed the plaintiffs allegations that the final EIS had failed to properly analyze the environmental impact of the Monroe Connector/Bypass around Winston-Salem North Carolina. The court noted that only indirect effects were at issue here and held in favor of the defendants noting that defendants had taken extensive steps to ensure that their socioeconomic data constituted an appropriate baseline for constructing the no-build and build scenarios, and analyzing the growth-inducing and indirect impacts that could occur.

Plaintiffs N.C. Wildlife Federation, in their arguments cited several cases, but the court held that these were distinguishable. For example, they relied on Highway J Citizens Group 656 F. Supp. 2d at 886, where the court (i) rejected the defendants analysis concerning growth inducing impacts because the agency had simply used a summary of land use plans and survey results and did not explain how they reached their ultimate decision and (ii) held that the administrative record failed to show that the defendants ever conducted a more thorough analysis Id at 887. In the current case, the court noted that “Here, in contrast, the Final EIS thoroughly discussed defendants' analysis of the project's growth-inducing impact.”

The plaintiffs also challenged defendant's analysis of the indirect environmental impacts of the bypass, alleging that the defendants failed to examine the indirect effects of multiple alternatives to the proposed project. The court again held in favor of the defendants noting that because the sixteen build alternatives covered almost the exact same path with only slight variations they were all expected to have the same environmental impact. So when the qualitative ICE was undertaken they were essentially comparing the no-build alternative with all sixteen build alternatives: "Defendants acted reasonably in comparing the No-Build alternative with only one build alternative. Accordingly, the court rejects plaintiffs' argument." Id at 33.

Alternatives Analysis

At the heart of an environmental impact statement is the agency's analysis of alternatives to the federal action. See 40 C.F.R. § 1502.14. CEQ regulations also specify that to satisfy NEPA, the agency must rigorously explore and objectively evaluate all reasonable alternatives and briefly discuss reasons for any alternatives being eliminated (§ 1502.14(a)). In the aforementioned KARST case, the court noted however, "...that is not to say an agency must ceaselessly review alternatives to include every alternative device and thought conceivable by the mind of man" citing *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 551, 98 S. Ct. 1197, 55 L. Ed. 2d 460 (1978). Instead, the alternatives an agency considers should be "bounded by some notion of feasibility".

In discussing the alternatives analysis in KARST the court noted that KEEP's concerns about the predetermination for one of the alternatives was misplaced because FHWA did not irreversibly and irretrievably commits itself to final alternative; instead, it whittled six potential construction designs down to one by comparing them to the purpose and need for the project. According to prior case law NEPA requires no more. In *Ohio Valley Trail Riders v. Worthington*, 111 F. Supp. 2d 878, 886 (E.D. Ky. 2000) the level of specificity with which an EIS must examine alternatives was found to be a matter of agency discretion, and should be overturned only if the range of alternatives is so inadequate as to be an abuse of the agency's discretion.

The aforementioned 2011 NCWF case also assessed the efficacy of the alternatives analysis as plaintiffs argued that the defendants failed to meet the alternative analysis requirements, because (i) the project statement of purpose and need was drawn too narrowly, leading to defendant's failure to consider a reasonable range of alternatives, and (ii) defendants lacked a reasonable basis for comparing the alternatives they did analyze because they relied on faulty socioeconomic data. In reviewing the alternatives analysis the court found that the defendants considered a regional range of alternatives, and that while NEPA requires the EIS to explore all reasonable alternatives there is no minimum number of alternatives that must be discussed citing *Laguna Greenbelt, Inc. v. U.S. Dep't of Transp.*, 42 F.3d 517, 524 (9th Cir. 1994) (per curiam). The court further held that as the defendants went through three screening processes to whittle down the alternatives to be utilized, and discussed their reasons for eliminating them, the alternatives analysis complies with NEPA and governing regulations.

In *Prairie Band Pottawatomie Nation v. FHA*, 751 F. Supp. 2d 1174; 2010 U.S. Dist. LEXIS 119193, the court reviewed allegations that the noise study did not comply with NEPA regulations, as the study did not compare existing noise levels with the noise abatement criteria or with predicated future noise levels for each of the highway route alternatives assessed in the EIS. NEPA regulations require FHWA to determine and analyze expected traffic noise impacts and alternative noise abatement measures to mitigate these impacts (23 CFR §772.9(a)).

As part of the EIS process, the Corps of Engineers (who had to provide a Section 404 permit under the Clean Water Act as the project would involve dredging) held a public scoping meeting to determine the issues to address in the EIS. They identified 27 alternatives and these were narrowed to 12 alternatives, which were discussed in detail in the EIS. They used a five step screening process and evaluate the alternatives. The alternatives were based on ability to meet the P&N of the project and attract sufficient traffic from the existing highway city route, and the costs of construction, maintenance and mitigation of environmental impacts. The Corps also commissioned a traffic noise study as required under NEPA.

In reviewing the elimination of an early version of one of the alternatives – in the scoping process – the plaintiffs asserted that FHWA violated NEPA. The court in reviewing this noted that the Corps had rejected the alignment earlier on because another alignment provided less curvature and other alignments were safer, more desirable alternatives. The

court found that the Corps did not violate NEPA by eliminating this alignment without explanation, as it was not a reasonable alternative to be reviewed in the EIS. The court held that the Corps in reviewing the alternatives, and evaluating them on KDOT's requirements (75 mile per hour design, impacts to existing roads, safety concerns, route efficiency, construction and maintenance costs, home displacements, floodway and floodplain impacts, wetland impacts, impacts to properties listed and eligible for listing on the National Register of Historic Places, and other considerations) had reasonably eliminated the conceptual alignment because it was impractical or ineffective.

In *Shenandoah Valley Network v. Capka* (2010 U.S. Dist. LEXIS 600006), the court in an amended complaint submitted by the plaintiffs – after a 2009 decision found in favor of the defendants – alleged that they had compelling arguments to that there was no support in the tier 1 administrative record for FHWA's decision to prospectively eliminate alternatives from consideration from future Tier 2 NEPA studies. The district judge however held that he had already found

...defendants' consideration of alternatives was reasonable, thorough, and compliant with the requirements of NEPA and the APA. I further explained that the Tier 1 ROD appropriately set forth the rationale for the decision to advance the variable lane widening concept and that the Tier 1 Final Environmental impact Statement provides in-depth descriptions of each alternate improvement concept considered and explains why all but the selected improvement concepts failed to meet the purpose and need of the I-81 study. Although my previous opinion specifically addressed the issues presented in the cross-motions for summary

judgment, my findings regarding the legality of the Tier 1 alternatives analysis and the reasonableness of the Defendants' decision to advance the variable-lane widening concept and reject all other concepts from further consideration during Tier 2 apply also to the questions plaintiffs seek to present in their second amended complaint. I found that Defendants complied with NEPA regarding these issues; accordingly, further NEPA challenges to the decision to reject certain alternate improvement concepts from consideration at Tier 2 are futile. Id at 11.

Section 4 f Analysis

Section 4(f) prohibits the Secretary of Transportation from authorizing the use of federal funds to finance the construction of highways through a public park, recreation area, wildlife and waterfowl refuge, or historic site, unless there is no prudent and feasible alternative to using that land 49 U.S.C. § 303(c).

In *Friends of Congaree Swamp v. FHA* in 2011 the United States District Court of the District of South Carolina found in favor of defendants and held that

Plaintiffs failed to identify how a project that had been in the same approximate location for more than sixty-five years would affect the use of a Park by visitors. The Project was a road and bridge replacement project and NEPA required only that defendants take a "hard look" at the potential environmental effects of the particular project proposed. Defendants found that the surrounding landscape had

not greatly changed over the past 150 years, and the Project area had changed very little over the past 65 years, since the original bridges were built.”

As part of plaintiffs suit, they alleged that the defendant has violated NEPA by failing to comply with the section 4(f) of the Department of Transportation Act of 1966 which requires the Defendants to undertake an analysis of feasible and prudent alternatives and undertake all possible planning to minimize harm when a highway project involves publicly owned parks.

In reviewing the 4(f) section of the complaint the court noted that under 23 CFR §774.17 a property is used when:

1. Land is permanently incorporated into a transportation facility;
2. There is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose; or
3. There is a constructive use of a Section 4(f) property determined by criteria in Section 774.15.

Plaintiffs apparently particularly objected to defendant’s conclusionary determination in the EA which noted that despite proximity to the national park, the project does not substantially impair the park. The court held that plaintiffs failed to demonstrate that defendant’s had violated Section 4(f) as the statute is only triggered by projects that ‘use’ land protected by the statute. Here the project does not use park land, and mere proximity is not enough to trigger the statute. The court noted that test should rather

focus on the severity of the effects of the project on the 4(f) protected land. Here again, the court held that consistent with the regulations, the project does not substantially impair the park such to constitute a constructive use.

In *Prairie Band Pottawatomie Nation v. FHA*, the proposed highway project also had another layer of “alternatives” complexity because two properties within the range of alternatives were protected properties under Section 4(f). The plaintiffs claimed that FHWA should have considered the Prairie Band Pottawatomie’s proposed alternative, and they disputed the magnitude of impacts that FHWA considered would occur by selection of this alternative.

Here the court used the three part test developed by the Supreme Court in *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 91 S. Ct. 814, 28 L. Ed. 2d 136 (1971) to guide analysis of Section 4(F) claims, namely:

First, the Court must consider whether the FHWA properly construed its duty to avoid the Haskell Farm property unless feasible and prudent alternatives do not exist, or feasible alternatives involve uniquely difficult problems... To affirm the FHWA decision, this Court must find that the FHWA could have reasonably believed that no feasible and prudent avoidance alternative alternatives exist or that the alternatives involve unique problems of extraordinary magnitude(23 CFR §774.17. Second, the Court must determine that the FHWA decision was not arbitrary, capricious, an abuse of discretion or otherwise not in accordance with

law. In other words, the FHWA decision must be based on a "consideration of the relevant factors" and not on "a clear error of judgment." *Id.* Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. If the Court is satisfied that the FHWA took a "hard look" at the relevant factors, the Court may not substitute its judgment for that of the agency. *Davis v. Mineta*, 302 F.3d 1104, 1114 (10th Cir. 2002); see also *Overton Park*, 401 U.S. at 416. Third, the Court must determine "whether the Secretary's action followed the necessary procedural requirements." *Id.* at 417.

Plaintiffs' challenges to the FHWA factual findings fall into the first and second steps of the test as they claim that the FHWA should have considered the 42C Alternative falls under *Overton Park* step two. Plaintiffs' contention that the FHWA's Final Section 4(f) Evaluation is undermined by its reliance on a legally deficient noise study falls into step three.

The court in reviewing the EIS noted that FHWA's Final Section 4(f) Evaluation conceded that both alternatives would affect the Wakarusa floodplain, but concluded that 32B would affect the floodplain and floodway less than 42A. They also noted that the Department of Interior had commented that the 42A alternative had less impact to wetlands, less floodplain impacts, and less total stream involvement. A reviewing court may properly be skeptical that agency conclusions are reliable if the agency has apparently ignored conflicting views of other agencies having pertinent expertise (*Davis*, 302 F.3d at 1123 (quoting *Sierra Club v. U.S. Army Corps of Eng'rs*, 701 F.2d 1011,

1030 (2d Cir. 1983)). In the case the court noted that it is “indeed skeptical, but it is in no position to choose between the conflicting opinions of the FHWA and DOI regarding floodplain and floodway impacts,” Id at 1207. The Court may only determine whether the FHWA's conclusion had a rational basis. The court held that in this case the FHWA properly considered its conclusion in rejecting the alternative as imprudent.

The court also reviewed the secondary and cumulative impacts on the Section 4(f) properties. Here the Section 4(f) review in the EIS found that the while there would be no direct impact on one of the properties from the 42A alternative, the secondary and cumulative adverse impacts from this alternative would be greater than the chosen alternative (noise, urban debris and visual disturbances on surrounding streets). The court again held that FHWA reached its conclusions on the cumulative and secondary impacts on the Section 4(f) properties through a reasoned – and not arbitrary or capricious – analysis. Therefore the court held that FHWA properly considered these impacts in determining the 42A alternative was imprudent. The court affirmed the FHWA’s Record of Decision.

EA or EIS?

An EA is, by definition, a less intensive inquiry than an EIS, because it is meant to be a precursor to the preparation of either an EIS or a FONSI. There is no universal formula for what an EA must contain and consider, but at a minimum it must provide sufficient evidence and analysis to support the agency's decision to either prepare an EIS or issue a FONSI and include brief discussions of the need for the proposal, of alternatives as

required by section 102(2)(E),9 of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted under 40 CFR §1508.9.

Bair v. Caltrans 2011 U.S Dist Lexis 72295, 41 ELR 20242, reviewed Caltrans issuance of an EA for a project when plaintiffs argued that the defendant had violated NEPA by disclose and evaluate the significant environmental effects, explore and evaluate reasonable alternatives to the project, adequately document public comments and concerns, and prepare an EIS. The court noted that in deciding whether an EIS was needed versus an EA, the agency must conduct a review of whether there are significant impacts must be taken through a “hard look” evaluation. If the agency finds that the environment will be significantly impacted it must issue an EIS. If no significant impact is found it can declare a finding of no significant impact, and proceed with the project. However, the court noted that under *Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 864 (9th Cir. 2005) (citation omitted) the FONSI must show a “convincing statement of reasons” as to why there is no significant impact. Here the court found that plaintiffs had demonstrated that irreparable harm is likely, because Caltrans cannot plant new redwoods to provide adequate relief because some of the trees likely to be harmed are more than a thousand years old. The court held that

Plaintiffs' strongest argument on the merits is that Caltrans violated NEPA by (1) not adequately evaluating the potential environmental impact, and as a result, (2) not completing an EIS. In allegedly miscategorizing the project as having "no

significant" effect, Caltrans ended its environmental review with a mere EA instead of creating a full EIS analysis.”

In *Friends of Congaree Swamp v. FHA* 786 F. Supp. 2d 1054; 2011 U.S. Dist. LEXIS 45925 the court issued an order finding that while the agencies were not required to prepare an EIS before proceeding with the project, the 2005 EA “...in its current form, violated NEPA's "hard look" requirement as it ... lacks the rigorous analysis or references that are required by both the text of NEPA and the mandates of courts interpreting the statute” Id. at 7-8. The Court enjoined the Congaree defendants from further actions on the bridge program until the deficiency was resolved or a new environmental study, either a modified EA or an EIS, is submitted. In the 2011 hearings, the court reviewed the FONSI issued by FHWA that was based on a revised EA that was completed in 2009. The revised EA concluded that the project would have no significant impacts. Plaintiffs again argued that the 2009 EA was deficient in the same ways that they had alleged the 2005 EA was deficient: the baseline data analysis that was used to determine the environmental effects and their cumulative impact was incorrect. Here defendants chose to use the current environment as the baseline for their analysis. The court held that the defendants did take a hard look at the potential environmental impact of the Project as required by NEPA, and that defendants' decision that an EIS was not required was neither arbitrary nor capricious.

In *Don Hamilton v USDOT* 2010 U.S. Dist. LEXIS 20334, the court again considered an agency's choice in issuing an EA with FONSI versus EIS. Plaintiffs argued that the

defendants violated NEPA by failing to prepare an EIS instead of EA, and that they acted arbitrarily and capriciously by issuing and relying on the EA and FONSI. Plaintiff's assessed that the EA failed to take a look at the project impacts, including cumulative impacts and alternatives to the project. Plaintiffs also allege violation of NEPA because of the issuing of the FONSI given the impacts that were disclosed in the EA. The court before it moved to substantive arguments noted two matters. First, plaintiffs' argued that the length of the EA (over 300 pages not including appendices) should signal the court that an EIS is required because CEQ guidelines suggest that an EA should generally not exceed 10-15 pages, ergo a lengthier EA indicates that a projects impacts are significant. While the court agreed that an overlong EA may be cause for concern, the court finds that length itself is far from dispositive. The court declined to adopt any brevity rule that would discourage agencies from issuing lengthy EAs. The court noted that such a rule would create perverse incentives for agencies to produce less thorough and detailed NEPA documents, which would run counter to the policy animating NEPA. Second, the court reviewed plaintiff's reliance on a memo from agency counsel at FHWA that criticized the draft EA, and which plaintiffs urged the court to construe as admission that the EA is defective. The court found two problems with this line of argument:

1. plaintiffs fail to acknowledge that counsel was commenting on the draft EA and they also failed to explain why revision to the final EA that were made in response to counsels comments were not sufficient to address these concerns; and
2. the court found that it would be poor public policy to construe agency counsel's criticisms as admissions. "By providing a road map for members of the public, such as Plaintiffs, to challenge Defendants' compliance with environmental laws,

agency counsel's memo displays exactly the kind of transparency and self-criticism those laws are intended to force.”

The court held that the FHWA determination that the project falls into the CE Class III grey area under their regulations (because 71% of the project followed the existing roadway and involved only minor realignments) was well within the agencies discretion.

Categorical Exclusions

The determination of a categorical exclusion has led to a multitude of case law over the past forty years. CEs have been held to be appropriate event in environmentally sensitive areas, so long as their applicable criteria and documentation are satisfied. In *Florida Keys Citizens Coal., Inc. v. United States Army Corps of Eng'rs*, 374 F. Supp. 2d 1116, 1140 (S.D. Fla. 2005) the court upheld a CE for roadway improvements that resulted in a loss of 83.9 acres of wetlands.

A recent case here in Texas highlighted the complexity of decision making, and may be one of the more entertaining/interesting judgments put forth from a court. *Aquifer Guardians in Urban Areas v. FHA* 779 F. Supp. 2d 542; 2011 U.S. Dist. LEXIS 46001 (hereinafter AQUIFER). In this instance however, the court found in favor of the defendant who had concluded that the project qualified as a CE. Here the Alamo Regional Mobility Authority, TxDOT and FHWA had conducted a collaborative detailed analysis and concluded there will be no significant environmental impact, after reviewing the analysis, public input and information in the administrative record. Once the CE exemption attached under FHWA regulations, no further NEPA review was required.

Plaintiffs challenged the determination that the project was a CE and argued that the determination was arbitrary and capricious. The court held that the categorical exemption decision of FHWA was not arbitrary or capricious. The court found that plaintiff failed to show that declarations from several individuals who criticized FHWA's decision and various aspects of the supporting analysis, met the test for exception which would render them legally relevant to the determination of whether FHWA's decision complied with NEPA "...Though plaintiff attempts to create a "battle of the experts," with each party asserting their analysis is more reasonable than the other's, such attempt is not the proper procedural or substantive method for an appeal of this nature." Id at 32.

In *Audrey Clement v Ray LaHood* 2010 U.S. Dist, LEXIS 42740 (decided on April 30, 2010) the court reviewed a challenge to the approval of a CE for construction of a spot improvement project to relieve traffic congestion in westbound lanes of IH-66 in Arlington and Fairfax counties in Virginia. FHWA found that the project would cause no significant environmental impacts from the Project, and no socio-economic impact because the project would take place within the existing right of way. The spot improvements would mitigate traffic congestion and improve access for community service vehicles. The Project will not use any park, recreation land, waterfowl/wildlife refuges, agricultural, open space easements, farmland, or historic properties because the work was in the existing right-of-way. The Virginia DOT found no threatened or endangered species or water resources nearby, so the project would not impact them. VDOT did conclude that invasive species may be present, but developed a mitigation

plan that would minimize soil disturbances to inhibit those plants from establishing themselves.

Plaintiffs here argued that FHWA had to consider the effects of adding an additional lane to westbound I-66 because the Spot Improvement Project was conceived as a single road project, but implemented piecemeal in order to circumvent environmental scrutiny and deflect political opposition. The court found that “plaintiffs' arguments, however, are not consistent with the facts and law.” The court held that there was no pretextual segmentation, and that the project has independent utility, ameliorating traffic on westbound I-66. The court found that the plaintiffs “...cite no record support or other evidence for their accusations that the agencies are trying to circumvent environmental scrutiny and deflect political opposition.” There is also no evidence to support a pretextual motive. *Id* at 18-19.

Improper Segmentation

In many NEPA cases plaintiffs have argued that the DOTs have improperly segmented projects to avoid undertaking an EA or EIS. The 2011 AQUIFER case argued improper segmentation. Here the plaintiffs argued that contends all projects affecting U.S. 281 or Loop 1604, which someday may look like Charlotte's web, must be analyzed in a single NEPA document and that FHWA improperly segmented the interchange improvements from other projects in violation of NEPA. The court noted that improper segmentation occurs only if the project at issue has no independent utility (*Save Barton Creek Ass'n v. FHWA*, 950 F.2d 1129, 1140 (5th Cir. 1992)). The agency, the court found “made a reasonable finding that replacing the congested stop lights with direct connectors, along

with other safety and mobility enhancements included in the project, will be extremely useful even if no other projects are undertaken in the U.S. 281 or Loop 1604 corridor.” The court also found that the plaintiff could not predicate their segmentation claim on preliminary plans for possible expansion of U.S. 281 or Loop 1604, because at the time of this case nothing was imminent: the draft notice of intent to draft an EIS for possible expansion had not yet set out any range of alternatives, did not appear to be finalized, and the agency had not published even a draft of any EIS. *Id.* at 66.

Recently, FHWA and the Virginia DOT have had to contend with a public sector locality bringing an EJ suit surrounding improper segmentation. In September 2009, Arlington County, Virginia filed a suit in federal court alleging the FHWA and VDOT decision to exempt significant portions of a proposed federal highway project from requirements under the Civil Rights Act of 1964 constituted intentional discrimination (*County Board of Arlington Virginia, v. U.S. Dept. of Transportation*, 2009 CV 01570 (D. D.C., filed Aug. 19, 2009)). The lawsuit surrounds the expansion of HOV lanes along the I-95/I-395 corridor into HOT lanes. The county has challenged the approval of the project’s environmental assessment alleging that it was arbitrarily segmented into a north and south section in an attempt to avoid environmental review of the northern section, which has four Census tracts of EJ communities in close proximity to the highway. The lawsuit alleges that the north section, which runs through predominately minority and low-income communities, was excluded from the environmental review to support growth in two southern counties characterized by “white flight” (Arlington County is 40% minority with 7.8% of residents below the poverty line). The complaint alleges that the project

would exacerbate EJ impacts already caused by southern counties' development plans, and would create a "new protected class- the largely white exurban single occupancy rider of sufficient wealth to be able to afford the payment of significant tolls". The complaint further alleges that the FHWA decision to allow the segmentation by authorizing the Categorical Exclusion status for the northern segment was "not only incorrect, but outlandish and rationally indefensible". It can be argued that this oversight could have been foreseen if the long-range transportation planning documentation was linked with project planning in support of NEPA, which could have resulted in better agency collaboration and communication regarding how the NEPA review would be undertaken.

Standing

In some instances, defendants challenge the plaintiffs standing to bring an action. The courts are extremely cognizant of the public policy implications surrounding standing. Plaintiffs will often argue that the courts have an independent obligation to investigate and police the boundaries of their jurisdiction.

An organization or association of individuals who bring suit against a federal agency must show eight total requirements for Article III standing. The major first hurdle mandates that at least one of the members of the association show a concrete and particularized injury that is actual or imminent and is not merely hypothetical or conjectural. The eight point test that a plaintiff must show is:

1. An injury in fact that is both concrete and particularized and actual or imminent;
2. The injury is fairly traceable to the challenged action of the defendant;

3. The injury will likely be redressed with a favorable decision;
4. The plaintiff's complaint relates to a federal agency's action or inaction;
5. It suffered either legal wrong or an injury falling within the zone of interest sought to be protected by the statute on which its complaint is based;
6. The members of the association would enjoy standing in their own right;
7. The interests it seeks to protect are germane to the organization's purpose; and
8. Both the association's claim and the relief it seeks do not require the participation of individual members in the law suit (Heartwood, 628 F.3d at 267 and Ctr. For Biological Diversity v. Lueckel, 417 F.3d 532, 537 (6th Cir. 2005)).

In KARST, the defendant argued that KEEP's members did not have an alleged concrete and particularized injury if the project was constructed. The court disagreed noting that the affiants lived within a thousand feet of the project area, used the local transportation network, and were users, photographers and researchers of the specific project area.

Reliance on Local Agency Transportation Plan

Case law has also been supportive, and has given much deference to the local transportation plans and to the MPO decision process. In KARST, the plaintiff non-profit group argued that Kentucky Department of Transportation and FHWA's reliance on the local economic forecasts – which used a planning horizon of 2030 and a range of estimations – was erroneous. Karst Environmental Education and Protection, Inc (KEEP) argued that dependence on the more aggressive growth projects when creating traffic models for the highway corridor overinflated the traffic projections and they argued this led to three main problems with the FEIS.

1. FHWA failed to revisit the intermodal transportation authority's (ITA) assumptions on employment growth or consider most recent data.
2. Current traffic congestion and safety concerns for this corridor do not necessitate the project
3. FHWA violated NEPA when it conducted a sensitivity analysis using the low development figures, but did not publically disclose them in the administrative process.

In reviewing how FHWA divided the project into travel analysis zones and undertook traffic analysis relying on the ITA growth figures, the court was unconvinced on KEEPs arguments, noting that the power or responsibility for long range planning does not fall on federal or state agencies (*Isle of Hope Historical Ass'n, Inc. v. U.S. Army Corps of Eng'rs*, 646 F.2d, 215, 221 (5th Cir. Unit B May 1981)). Rather the court held that agencies must respect the autonomy of community planners when creating cohesive plan to incorporate the federal action. "Thus the use of the local officials' employment forecasts (in the traffic and revenue study) is neither remarkable nor objectionable."

The court also noted that NEPA provides agencies a certain degree of latitude when making predictions in their area of special expertise. See *Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103, 103 S. Ct. 2246, 76 L. Ed. 2d 437 (1983). KEEP admitted in its motion that qualitatively evaluating future transportation needs is a complex task. So the court held that it would only make sense if such a calculation was provided a degree of deference when reviewed by this Court stating "...Indeed, courts have provided

deference to experts performing traffic modeling in the past. See e.g., *Peters*, 716 F. Supp. 2d at 1225-26 [A] district court should 'properly recognize that it cannot designate itself a 'super professional transportation analyst' or decide which party utilized the better methodology. (quoting *Druid Hills Civic Ass'n, Inc. v. Fed. Highway Admin.*, 772 F.2d 700, 709 (11th Cir. 1985)).' The Court found that the methodology and expertise of the forecast were sound and that the current employment figures – which were lower than projected – were not a sufficient reason to overturn the FEIS. The court also held that KEEP's objections were undermined by well-settled law that federal agencies are not obligated to restart the NEPA process every time new information becomes available.

In *Citizens for Smart Growth v. Peters* (716 F. Sup. 2d 1215; 2010 U.S. Dist. LEXIS 54284, the court also looked at reliance on an MPO plan in determining the adequacy of the P&N. Here plaintiffs alleged that the agency was influenced by the decision of the Martin County MPO who had endorsed Corridor 3. The court held this was without merit, even if it is true, and that Martin County MPO have the right and the responsibility to try to determine the long-term planning and transportation management goals for the county.

Endorsement of a traffic plan and sponsorship of that plan before FDOT and FHWA is in accordance with the responsibilities of the MPO, an elected body that represents the people of Martin County. It is not for this Court to step in and find that the goal of the Martin County Municipal Planning Office to bring an additional four lanes of traffic capacity via a bridge to Palm City was an

impermissible or unwise goal. This Court only ensures that the agencies charged with helping to realize that goal, FDOT and FHWA, have made an informed and well-considered decision. See *Vt. Yankee*, 435 U.S. at 558. While it is true that "[s]omeone has to define the purpose of an agency action," that someone should not be, and is not, the reviewing court. *Citizens Against Burlington*, 938 F.2d at 199. *Id.* at 1225

Reasonably Certain to Occur

Another area in the case law determination is the interpretation of whether activities that may be listed in long range planning documents, or other scoping elements are reasonably certain to occur. The Endangered Species Handbook from Fish and Wildlife Service (FWS, 1998) notes that:

...[i]ndicators of actions 'reasonably certain to occur' may include": approval of the action by State, tribal or local agencies or governments (e.g., permits, grants); indications by State, tribal or local agencies or governments that granting authority for the action is imminent; project sponsors' assurance the action will proceed; obligation of venture capital; or initiation of contracts. The more State, tribal or local administrative discretion remaining to be exercised before a proposed non-Federal action can proceed, the less there is a reasonable certainty the project will be authorized. Speculative non-Federal actions that may never be implemented are not factored into the "cumulative effects" analysis. At the same time, "reasonably certain to occur" does not require a guarantee the action will

occur. The action agency and the Services should consider the economic, administrative, and legal hurdles remaining before the action proceeds.

While the 5th Circuit noted in Medina that “[O]ur circuit has not interpreted the term reasonably certain to occur it has interpreted the reasonably foreseeable standard for assessing cumulative impacts under NEPA (40 CFR § 1508.7). This standard applies in a broader set of circumstances but encompasses the cumulative effects standard under the Endangered Species Act – i.e. actions reasonably certain to occur are also reasonably foreseeable (51 Fed. Reg. at 19933). The court noted that its case law shows that even the broader reasonably foreseeable standard requires a substantial degree of certainty before a cumulative impacts analysis will be required. For example, the court notes that in *Gulf Restoration Network v. United States Department of Transportation*, 452 F.3d 362 (5th Cir. 2006), it concluded that the federal agency's decision was not arbitrary and capricious when the agency had refused to consider, as part of its cumulative impacts analysis for a liquefied underwater natural gas facility, three similar facilities that were proposed to be built in the same area.

Interrelated Action

Another area of determination that one circuit has reviewed is whether other segments, projects, and plans should be considered as interrelated actions to the proposed agency action.

Again the 5th circuit noted in Medina that [O]ur circuit has not yet interpreted the term interrelated action, and again cites from FWS's Endangered Species Consultation

Handbook which clarifies that the larger action is the proposed action for which the agency has been called upon to grant approval:

...It is important to remember that interrelated activities are measured against the proposed action. That is, the relevant inquiry is whether the activity in question should be analyzed with the effects of the action under consultation because it is interrelated to the proposed action. Be careful not to reverse the analysis by analyzing the relationship of the proposed action against the other activity.

The only circuit that has currently interpreted this term is the 9th circuit. It uses as its test for interrelatedness the but-for causation test i.e. but for the [proposed action], these activities would not occur citing 51 Fed. Reg. at 19,932).

Climate Change and Greenhouse Gas Analysis

An area that is also beginning to be reviewed by the courts are allegations that environmental analysis must review of climate change effects caused by greenhouse gas emission (GHG) as a consequence of project development. In *North Carolina Alliance for Transportation Reform v. FHWA* (713 F.Supp.2d 491; 2010 U.S. Dist. LEXIS 49742 (hereinafter NCAT)), another challenge was brought to the construction of a highway around the city of Winston-Salem North Carolina (NCWF case mentioned earlier). Here plaintiffs argued that the EIS failed to evaluate the effect the project would have on global climate change through greenhouse gas emissions. Here the plaintiffs argued that the EA did not account for the impact of two future connecting road construction projects not contained in the current project. Plaintiffs argue that "...merely because greenhouse

gas emissions may affect global climate change only slightly does not abrogate the agencies' requirement to evaluate it as an unknown or uncertain impact under CEQ regulations". The plaintiff's contended that these constituted violations of NEPA and North Carolina's environmental policy act.

The court noted that both the state and federal defendants asserted that GHG evaluation is not mandated by NEPA. No national standards exist for their evaluation in this context, and plaintiffs could not show that the increase in VMT would significantly impact GHG emissions. The agencies did, however, conduct air quality reviews as required by NEPA (40 CFR §1502.16 and §1508.8(b)) and devoted twenty pages to this analysis pursuant to the National Ambient Air Quality Standards (NAAQS) promulgated by EPA under the Clean Air Act (CAA). The defendants had also involved EPA and the North Carolina Division of Air Quality, and Forsythe County Environmental Affairs Department in their initial scoping of the NEPA process. None of these agencies directed the defendants to evaluate potential impacts of GHG's on global warming. The ESI concluded that the beltway complied with CAA requirement that the project conform to the State Implementation Plan for mitigating air quality impacts under 40 CFR §51.854, §51.858 to §51.860. Plaintiffs could not identify any case holding that NEPA requires an analysis of the potential impact of GHG on overall climate change in connection with a proposed transportation project.

Plaintiffs relied on *Massachusetts v. EPA*, 549 U.S. 497, 127 S. Ct. 1438, 167 L. Ed. 2d 248 (2007), and *Center for Biological Diversity v. National Highway Traffic Safety*

Administration, 538 F.3d 1172 (9th Cir. 2008), which discussed GHG and climate change in other contexts. The court held that these two cases are readily distinguishable and cannot be read to impose a duty on Defendants to consider the potential contribution a federal highway project may have to global climate change. The court noted that plaintiff's challenge was more like facts raised in *Audubon Naturalist Society of The Central Atlantic States, Inc. v. U.S. Department of Transportation*, 524 F. Supp. 2d 642, 708 (D. Md. 2007) (hereinafter AUDUBON). In AUDUBON, the plaintiffs alleged a violation of NEPA in a federal highway project for defendants' failure to consider its impact on global climate change. The court, in AUDUBON found that the government agencies did consider this issue but concluded that analysis of GHG on a project-level basis was not useful because no national regulatory thresholds had been established. The court concluded that the defendants did not act arbitrarily or capriciously in concluding that no mitigation was needed "for the supposed impacts of a single stretch of highway on the global problem of climate change."

In NCAT, the court the court noted that the defendants had clearly examined the issue of climate change, and acknowledged their decision to not evaluate GHG in the EIS because of the lack of either national standards, or EOA criteria or thresholds. The EIS concluded they could not usefully evaluate any impact on a project-level basis, like the present case, given the interactions of the elements of the transportation system. The plaintiffs attempted to argue that defendants should have considered proposed EPA rules that would require annual GHG reports from certain stationary facilities (power stations). The court noted that 'defendants aptly point out, these were only proposed regulations at the time

and do not apply to highway projects, nor post-date the Record of Decision. The court held that defendant's failure to employ them did not violate NEPA (id at 520). The court concluded that "...defendants reasonably considered the major environmental consequences of the Northern Beltway and have provided a rational basis for their decision not to quantitatively analyze the potential effect greenhouse gas emissions may have on global climate change."

CRITICISM OF NEPA

As the case law analysis has shown, the NEPA process itself is complex, time consuming, and subject to litigation. By identifying and proactively addressing critical issues early in the planning process, project outcomes can be improved. When these NEPA environmental reviews are not done effectively, the results have been delayed construction, cost escalation, and challenges in acquiring right-of-way. From the inception of a project, effective NEPA regulation compliance requires coordination among project participants, all involved agencies, and the public. As reviewed in Section 1.5 major specific areas of litigation around NEPA include: adequacy of the EA, CE use and determination, cumulative impacts including determination of direct and indirect effects, adequacy and nature of purpose and need, mitigation options, development of the range of alternatives and how these are discarded, segmentation, tiering, and traffic and economic forecasting. Munson (Munson 2009) sums it up well in noting that "...transportation projects, in particular, tend to generate both intense public debate and extensive EISs, so these impact statements are usually litigated ad nauseum ... long delays and expensive legal battles may ultimately dissuade decision-makers in the agency from carrying out the project". NEPA has also been criticized because the statute has

been used to obstruct decisions made by agencies by slowing down decision making, which has also led to negative effects on agencies ability to carry out their statutory duties (Mandelker, 2010). Congress has intervened from time to time to revise and streamline NEPA processes in legislation. Transportation saw this type of revision on streamlining occur in SAFETEA:LU in 2005.

Journal articles on NEPA have also taken multiple pot-shots at the efficacy of NEPA, agency determinations, the underlying modeling infrastructure used by agencies and consultants for EA and EIS development, and judicial deference to agencies expertise. For example, Munson (Munson, 2009) discussed and argued that the sudden shifts in behavior seen during the summer of 2008 as fuel prices rose over \$4 a gallon around the country, drastically undercut experts ability to predict usage levels for transportation infrastructure projects. This in turn, he argues, has made it nearly impossible to model and predict driving behavior and, that the changed circumstances have fatally compromised the scientific integrity of the transportation models used to predict usage levels for EA/EIS purposes, which will leave these studies vulnerable to legal challenges in the future.

Munson goes on to review how the models also do not accurately take into account higher fuel prices. He posits a courtroom hypothetical where an EIS that has taken over five years to compile has several points modeled along a timeline that predict a certain level of VMT and is part of the purpose and need for expanding a four lane highway to six lanes. However, under this constant growth scenario, the result of higher fuel prices

has led to driving dropping nearly 6%. The drop in VMT impacts the scenarios and alternatives analysis developed in the EIS, and Munson argues

...there would be no way to defend the model in this scenario. The four-lane highway already exists and cars are using it, so the environmental plaintiff could conduct counts and present the court with figures showing that the model's prediction and date range is clearly erroneous by a statistically significant margin-nearly 14%. This would cast significant doubt on the reliability of the studies generally, and make it hard to justify expanding the highway when the evidence shows that ridership has decreased since the project was proposed.

If such a scenario came to fruition, the defendant DOT might also find that the MPO planning documents may be criticized for considering inaccurate model data.

Nelson (Nelson, 2010) considers court deference to agency science. She argues that the judiciary, under 'mounting complexity' struggles under its current methodology with how to pair degrees of judicial review with "an intricate labyrinth of agency decisions". She notes that where science and policy commingle the courts are least equipped. In a review of ninth circuit NEPA decisions surrounding agency science, she concludes that the standard of review is applied inconsistently based upon how the policy-science divide is articulated. Political ideology, she finds heavily contributes to case outcomes.

While the court's role is not to substitute its own judgment for that of an agency, the level of judicial review according to 9th circuit options differs depending upon whether the court is asked to examine a factual determination or a legal or policy determination (Ctr. for Biological Diversity v. Kempthorne, 588 F.3d 701, 707 (9th Cir. 2009) (emphasis added) (quoting *Env'tl. Def. Ctr. v. U.S. Env'tl. Prot. Agency*, 344 F.3d at 869)). Factual determinations in the 9th circuit, according to Nelson, received less judicial scrutiny and were more likely to be upheld.

Circuit Judge Pregerson in a 2008 9th circuit case (*Nw. Coal. for Alternatives to Pesticides*, 544 F.3d 1043, 1052 (9th Cir. 2008)) illuminated even further the courts role in judicial review on distinguishing between depth and scope:

...Although the ultimate scope may be narrow, the depth must be sufficient for us [the court] to be able to comprehend the agency's handling of the evidence cited or relied upon. The purpose of this in-depth review is to educate ourselves so that we can properly perform our reviewing function: ... to ascertain whether the agency's actions were complete, reasoned, and adequately explained. The mere fact that an agency is operating in a field of its expertise does not excuse us from our customary review responsibilities. *Id* at

Nelson, in her review of four specific ninth circuit cases and how the court treated the science-policy mixture, found that in many instances judges remain in pursuit of predictability, through a desire to align cases with precedent. She notes though, that

precedent's influential role can "reinforce the risks at stake in omitting a more careful science-policy analysis." In the cases she reviewed, judges differed in their deference as to when agency expertise was appropriate. Nelson, also compared the political affiliation of judges versus case outcome – specifically deference to agency decision making. Republican appointed judges were found to have found agency decision making arbitrary and capricious only 7 times since 2008 (in 44 cases) compared to democrats finding decision making arbitrary 48.8% of the time for the same set of cases.

Ted Boling (Senior Counsel for Environmental Policy at CEQ) in a 2010 article (Boling, 2010) assessed the state of NEPA implementation on its 40 year anniversary. Boling, specifically assessed the use of CE's, and reviews how agencies have used the CE (which was encouraged by CEQ guidance in 1983).⁴ He notes that while extensive use of CEs may represent the maturation of NEPA programs, the use of programmatic agreements and ever expanding categories within CEs, has reached the point where CE promulgation and use has become controversial. CEQ did issue new draft guidance in 2006 on creation of new CEs and revision of those that were already developed.

Case law surrounding development and application of CEs is relatively rare, although courts have taken the requisite hard look at this area and found some CEs lacking (*Sierra Club v. Bosworth* 510 F.3d 1016 (December 5, 2007 Ninth Circuit) hereinafter *Sierra Club*). In *Sierra Club* the 9th circuit found that the comments on the CE proposal from federal and state wildlife agencies raised significant issues regarding regional and

⁴ In reviewing projects that were funded by the American Recovery and Reinvestment Act (AARA) he found that 15 federal departments and nine agencies reported that they were able to make funding decisions based on EA's in over 7300 actions and use an existing EIS in over 800 actions. What was notable was the number of AARA projects funded through use of the CE. By March 2010, 157,500 projects out of the approximately 165,600 reported AARA projects had been finalized using the CE.

ecological differences in the effect of actions allowed under this nationwide CE. The court also noted that the Forest Service's lack of specificity, both in its drafting of the CE and on the extraordinary circumstances limitation that prevents unintended environmental effects, required remand of this CE. According to Boling, the "effect of CE-dominated NEPA programs on federal agencies' implementation of NEPA raises broader concerns regarding the implementation of NEPA's goals of public involvement and informed agency action."

At the local level, according to Bolin, NEPA implementation that is dominated by CEs reduces an agency's NEPA program to a documentation procedure that fails to make the NEPA process more useful to decision-makers and the public. He notes that for many agencies, programs developed to ensure NEPA compliance are 'a reminder of NEPA's driving force: litigation'. NEPA compliance, he argues, is a means to satisfy in-house counsel and the scope and implementation of these programs is based on assessment of litigation risk. He argues that where agencies have developed programs that lack litigation vulnerability they do not often receive any NEPA analysis. This may mean that some large-scale uses of resources may not be evaluated through a comprehensive planned NEPA type evaluation. Boling also notes that the expanded use of contractors as a principal source of EIS expertise has also reduced in-house agency expertise necessary to exercise oversight of contractor-led assessments. This, he argues, reduces environmental leadership necessary to consider alternatives beyond 'application specific issues'. Boling considers that as NEPA entered its fortieth year a central challenge still to

be addressed were integrating NEPA's goals and purposes in agency decision making practices, authorities and programs. Boling argues, that:

Paradoxically, to get ahead of the litigation curve, agencies may need to shift focus from preparation for litigation to making decisions that may be litigated. Where agency decisions are made in the context of a comprehensive agency environmental program, their consequences are considered, communicated, and, consequently, more defensible. In a well-designed environmental program, even a loss on NEPA grounds is more manageable. Where a federal court finds a specific NEPA decision to be deficient under the standards of the Administrative Procedure Act, the implications of this process failure can be assessed and addressed by the agency environmental program rather than through ad hoc judgments of litigation risk. An effective environmental program can respond to litigation developments nimbly by providing supplemental analysis as needed. *Id.* at 330.

By integrating NEPA and Planning, and shifting beyond SAFETEA-LU's components that limited this activity to project implementation, one can envisage shifting NEPA processes so that they can better connect to NEPA's transformation goals and purposes through coordination and collaboration between the planning documents and process and the eventual NEPA process surrounding implementation projects.

Keenan (Keenan, 2005) also looked at the conflicts of interest that can arise in NEPA because of use of contractors. Keenan, noted that while a contractor must execute a disclosure statement indicating they have no financial or other interest in the projects outcomes, if a conflict subsequently arises according to CEQ regulations the contractor should be disqualified. However, determining, if and where a conflict exists, according to Keenan is not easy. Case law from the Tenth Circuit in 1998 (in *Ass'n Working for Aurora's Residential Environment v. Colorado Dep't of Transportation (AWARE)* 153 F. 3d 1122) and a Kansas District Court in 1994 (*Northern Crawfish Frog (Rana Areolata Circulosa) v. The Federal Highway Administration (Crawfish)* 858 F. Supp. 1503 (D. Kansas 1994)) found no conflict of interest. In the AWARE decision, Keenan notes, that the "...Tenth Circuit despite other courts' conflicted interpretations, determined that a conflict of interest exists when a contractor has an agreement or a guarantee of future work with the project or the agency." In the Crawfish decision, the District Court determined that "...even if a conflict of interest existed, it would not compromise the integrity behind the environmental process." In reviewing

Keenan's article looked at the case of *Utahns for Better Transportation v. United States Department of Transportation* (305 F. 3d 1152 (10th Cir. 2002) (hereinafter *Utahns II*))⁵ and a purported contractor conflict of interest. Relying on the AWARE and Crawfish decisions the Tenth Circuit found that the Corps of Engineers and FHWA erred in allowing UDOT and its contractors to prepare the FEIS, but found that there was no existing conflict of interest. The *Utahns II* case was distinguished from AWARE and Crawfish because the court held in those cases the federal agencies overcame the

⁵ *Utahns I* can be found at 180 F. Supp. 2d at 1288.

potential conflict of interest by actively participating in NEPA processes. In the Utahns II case the Court held that the Corps and FHWA had illegally delegated their NEPA responsibilities. The court also reviewed whether the alleged conflict of interest had compromised the overall NEPA process, but according to Keenan did not provide a thorough discussion on the subject of conflict. Keenan, notes that the court did not discuss the requirement for disclosure statement, nor did they note whether UDOT had submitted one to FHWA, so it is difficult to determine from this opinion whether the disclosure statement plays a significant role in discovering or minimizing a potential conflict (Id at pp 84). The court in Utahns II held that there was no conflict of interest because there was no contract between the federal agencies and UDOT for a predetermined result. Keenan notes, that in AWARE the Tenth Circuit had found that active participation by a federal agency strengthened the overall process and eliminated potential conflicts of interest. In the Utahns II case Keenan argues that the court unfortunately overlooked this and diminished the importance of “FHWA’s and the Corps’ inactive role in the entire NEPA process” Id at 1186. Keenan, concludes on this issue that if the Tenth Circuit “...had conducted a more thorough analysis concerning whether NEPA's integrity was compromised, it most likely would have held the EIS inadequate on this ground.” Id at 1129. However, the Utahns II outcome does strengthen the proposition that agencies must actively participate in preparing an EIS, and cannot merely adopt an EIS developed by a contractor. Agencies positions could be further strengthened in such situations through their active participation in linking planning and NEPA processes: a scenario of active participation from plan, through

review to implementation would strengthen potential suits that allege delegation of duties and conflict of interest issues.

In 2010, Mandelker, reviewed NEPA implementation and its contributions to environmental analysis (Mandelker, 2010). Mandelker reviews studies conducted by CEQ on NEPA's performance, specifically the 1997 review of its effectiveness after 25 years (CEQ, 1997) and the 2003 Task Force (CEQ, 2003 c) that was required to report comprehensively on problems in NEPA's implementation. The 1997 effectiveness report considered some of the structural problems, including agency practice to avoid preparation of an EIS by using the FONSI and mitigating actions. The report noted that the FONSI was adopted 90% of the time, which was not the expectation when NEPA was adopted. The 2003 Task Force tackled six areas, and Mandelker focuses on two of these: programmatic analysis and the use of CEs.

Mandelker, reviews the NEPA decision making process, and notes that in the absence of detailed statutory direction, compliance with NEPA lies in the detailed regulations that CEQ has developed. For the most part these are much the same as when they were adopted in 1978 as part of a three-part decision making process. Mandelker, notes that "...experience has shown that this process is overelaborate, redundant, and not responsive to the needs in NEPA decision making." Looking at the first option, the CE, he notes that agencies have pushed this option to the limit. The 2003 Task Force, he notes also found that agencies were confused about their use. Mandelker also notes that the avoidance issue also manifests itself in the ratio of use of EA to EIS (estimated at a

100:1). The adoption of mitigation measures in the EA as part of the basis for finding a mitigated FONSI has also become the “strategy of choice” for compliance. This is not specifically authorized within regulations, but it has been approved judicially (pp 298). He argues that “What emerges from this discussion is a decision-making process, not mandated by statute, that is complicated and redundant, that includes a major compliance procedure not specifically authorized by the regulations, and that is subject to abuse.” Mandelker argues that a realignment of the decision-making process is required to eliminate redundancy, and clarify agency responsibilities.

Mandelker also reviews the application of NEPA review to plans. In this he discusses an article by Ackerman (Ackerman, 1990) that discussed whether the application of NEPA to ‘agency plans’ presents different problems compared to application to specific projects. Ackerman found that because agency plans are long-term programmatic decisions which often address dynamic conditions, these may be subject to change due to changing circumstances such as resource constraints, economics or public values. Ackerman, attests that experience in implementing a plan may identify the need to review underlying assumptions and projections considered in the originating NEPA review. Ackerman, argued that such changes or experience can result in an “altered vision of the appropriateness of a plan, as well as the adequacy of any NEPA analysis supporting it.” Therefore any NEPA analysis of an overall comprehensive long range transportation plan should be reviewed through the lens of Ackerman’s discussion points. Ackerman suggests making any such process ‘more timely and final’ and streamlining the process to remove some analysis standards by shifting emphasis from large scale to regular and

continuous incremental decision making. In conclusion Mandelker, notes that in considering the impacts of actions, linkage to local plans may assist in determining and forecasting any growth-inducing effects.

There have also been a slew of articles over the past 4 years that have assessed what should constitute an adequate cumulative analysis for assessing GHG emission impacts (Reinhart, 2010); how greening state and local use plans will address climate change and preserve resources for future generations (Salkin, 2000); the ability of future generations to have standing to sue after *Massachusetts v EPA* (Mank, 2009) and a 2011 review of what it means to comply with NEPA and whether NEPA should have procedural or substantive force (Baker, 2011). The discourse surrounding NEPA continues to be dynamic, evolving, and one cannot see an end to continuing legal articles on various aspects of NEPA.

The Supreme Court and Its Potential Impact On NEPA

Turning now to a review of Supreme Court decisions, Johnson (Johnson, 2010) reviewed environmental decisions from the first four terms of the Supreme Court since Chief Justice John Roberts was appointed in 2005. While noting that it is hard to characterize a court as pro or anti-environment, Johnson observed some themes have consistently appeared in the Supreme Court's decisions in the Robert's era.

1. In most of the environmental cases, the Court has adopted a position advocated or defended by a federal, state or local government when governmental interests are at issue.
2. In all of the cases that implicate federalism concerns, the Court has rendered decisions that favor States' rights, regardless of whether the decisions are beneficial to, or harmful to, the environment.
3. While the Court continues to rely primarily on textualism to interpret statutes, the Court has not relied on textualism to support its decisions in most of the cases that have been harmful to the environment.

Johnson's article follows previous law journal articles since 1997 that have reviewed the Supreme Court's environmental record (Farber, 1997; Lazarous, 2000; Lin, 2005; Manaster, 2006; and Wexler, 2006). Lazarus, Johnson notes "...suggests in his analysis of the voting patterns of Justices in environmental cases over thirty years, and the nature of the Court's opinions in environmental cases, demonstrate the Court's increasing hostility." Lin, echoes Lazarus's pessimistic conclusions that the Supreme Court is hostile to the environment, and also adds that during a 2003 term the justices rely on "...textualism and the selective application of federalism to obscure an underlying anti-environment bias." Farber (Farber, 1997) on the other hand concluded that the court's decisions have not "have not substantially affected environmental regulation and that the Court has been largely irrelevant since the late 1970s". Farber contents that the court minimized its influence in four main ways:

1. Choosing to hear cases that have little precedential value because they involve insignificant issues or have peculiar facts;
2. Dismissing cases on jurisdictional grounds to avoid deciding cases on their merits; and
3. Resolving issues on extremely narrow and technical grounds; and
4. Deferring to agency decisions when the court addresses merits in these cases. *Id.* at 558-559.

Manaster, has also concluded that the supreme Court has not been ‘instrumental’ in developing a separate field of environmental law (Manaster, 2006). Reviewing Justice Steven’s opinions in environmental cases, Manaster suggested that the court could play a more significant role – in cases that involve direct enforcement of statutes and agency action – to craft a body of environmental law.

Wexler and Lazarus, Johnson notes, suggest that because of the unique nature of environmental law, a different approach should be adopted by the Supreme Court. They suggest in applying general law principles to the facts in cases, that it considers the unique features in environmental disputes, and to shape these general principles of law based in part in the context of environmental law on lessons learned during the disputes (Johnson, 2010).

Johnson, then turns to review the first four terms of the Robert’s Court (which only one academic had covered Adler, 2009). Johnson found that while overall the court has not

been overtly hostile to the environment, the justices have been more polarized in environmental cases. The October 2008, it turns out, was particularly harsh from an environmental perspective, with five cases submitted all being decided against plaintiffs. During the first four terms, the court decided 14 cases, and while Johnson notes that it can be dangerous to reach conclusions based from a small sample, some preliminary observations can be made. In most of these cases (71%) statutory interpretation was involved, as opposed to constitutional or other law issues. Out of the fourteen cases 71% of the decisions reversed lower court decisions. The court reversed all six of the cases it received from the Ninth Circuit. However, notwithstanding the Ninth Circuit issue, Johnson finds that the reversal rate in environmental cases was similar to its reversal rate for all cases it decided over the previous four terms (*Id* at 33). Johnson, concludes that “On balance, while the Roberts Court cannot be characterized as overtly hostile to the environment, the Court's decisions are generally more harmful than beneficial to the environment. Quantitatively, only forty-three percent of the Court's decisions can be characterized as pro-environment, and environmental groups were on the losing side in seventy-one percent of the cases in which they participated.”.

Johnson also looks beyond the numbers and reviews the anti-environment and pro-environment decisions (See Appendix A). From the perspective of the DOT or MPO engaged in integrating Planning and NEPA the issues that may be of concern from the anti-environment decisions include (i) the decision in *Winter v. NRDC* where the court weakened precedent that had encouraged courts to issue injunctions to require compliance with procedural requirements of environmental laws; and (ii) the decision in

Summers v. Earth Island Institute where the court limited standing for persons to bring challenges based on harms to procedural rights. The limitations that these cases have placed are sure to be heavily lobbied by the environmental non-profit sector, and may in the future be overruled through legislative changes at both the state and federal level. On the pro-environmental side agencies may find a changing landscape vis-à-vis GHG as a consequence of the Massachusetts v. EPA decision and the fact that the Roberts' court issued pro-environment decision in cases that involved statutory interpretation as often as it issued anti-environment decisions.

It should also be noted that the court's composition has also changed since this article was drafted. Justice Sonia Sotomayor replaced Justice David Souter upon his retirement in 2009 and Justice Elena Kagan replaced Justice John Paul Stevens upon his retirement in 2010, and this will also shape the landscape of environmental and NEPA decision making from the Supreme Court.

LEGISLATIVE ACTIVITY – CALIFORNIA TRAILBLAZING

California, through its Environmental Quality Act has actually legislated for environmental review of long-range planning documents through the California Environmental Quality Act (CEQA) (California Public Resources Code (CPRC) Sections 21000-21178, and Title 14 California Code of Regulations (CCR) Section 753 and Chapter 3, Sections 15000-15387). CEQA requires a Program Environmental Impact Report (PIER) for any information document that discloses the impacts of discretionary government actions on the environment. The Act requires lead agencies to prepare an

Environmental Impact Report (EIR) including programs and plans that may cause significant environmental effects. So MPOs/COGs in California are required to prepare a PIER for their regional transportation plans, including their Sustainable Communities Strategies. Cities and Counties are also required to conduct a PIER analysis of the long-range comprehensive plan. For example the City of San Diego certified its general plan update final PEIR in March 2008 (San Diego, 2008)

Under PEIR agencies evaluate regional scale environmental impacts and indirect effects, including growth-inducing impacts and cumulative impacts. They are also required to identify any potentially significant adverse environmental impacts and include any mitigation measures that will minimize these identified impacts.

Local agencies can also integrate the requirements of this section with planning and environmental review procedures that are otherwise required by law or local practice, so that all of these procedures can feasibly run concurrently as opposed to consecutively (CPRC §21003 (a)). Information developed in the EIRs can be incorporated into a data base to use subsequent or supplemental environmental determinations (CPRC §21003 (e)).

The PEIR can be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts of the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or (4) as individual

activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. (CCR Guidelines §15168). PIER can serve as a first-tier document for later CEQA review of individual projects/plans that may be included in the program (CCR §15063 (b) (B) and §15179).

Similar to the CEQ guidelines for CE type projects the CEQA also exempts some projects from the requirements of conducting an EIR. Transportation projects that are exempted include:

- A project for the institution or increase of passenger or commuter services on rail or highway rights-of-way already in use, including modernization of existing stations and parking facilities.
- A project for the institution or increase of passenger or commuter service on high-occupancy vehicle lanes already in use, including the modernization of existing stations and parking facilities.
- Facility extensions not to exceed four miles in length which are required for the transfer of passengers from or to exclusive public mass transit guideway or busway public transit services.
- A project for the development of a regional transportation improvement program, the state transportation improvement program, or a congestion management program prepared pursuant to Section 65089 of the Government Code (CPRC §21080 (b) (10 through 13)).

TEXAS LEGISLATIVE SESSION CHANGES FROM 82ND TEXAS LEGISLATURE

Currently, Texas Transportation Code does not have any specific mandate or directions for integrating planning and NEPA. However, in the 82nd Legislative session, the Texas Legislature in Senate Bill 1420 did make substantial changes to the environmental review and statewide and metropolitan planning processes, which will aid in integrating planning and NEPA. The changes could also provide opportunities for TxDOT and local transportation agencies, through the collaboration that is required in many of the new sections of the Transportation Code, to develop new policies and procedures so that elements from the long term planning documents can be utilized in the NEPA review and documentation. This section of the report details the changes and also includes comments by the researchers on how the changes could be utilized to integrate planning and NEPA.

Section 201.601 of the Transportation Code (TC) was amended to require TxDOT to develop a statewide transportation plan covering a period of 24 years for all modes.

Section 201.601 (a) (a-1) requires that the plan must contain specific, long-term transportation goals for the state and measurable targets for each goal; identify priority corridors, projects, or areas of the state that are of particular concern to TxDOT in meeting the goals established under Subdivision (1); and contain a participation plan specifying methods for obtaining formal input on the goals and priorities identified under this subsection from other state agencies; political subdivisions; local transportation

entities; and the general public. The plan is required to be updated every four years, or more frequently if necessary.

TC Chapter 201.605 was also amended by the addition of Section 201.6015 which requires that as the transportation plans and policy efforts are developed by TxDOT it must reference the statewide plan and specify how the plan or policy effort supports or otherwise relates to the specific goals under that section.

Subsections of Section 201.607 of the TC were amended regarding updating memorandums of understanding (MOU) with state agencies that are responsible for environmental, historical, or archeological resources. Section 201.607 (a) requires that the MOUs are examined and revised every five years. Subsection 201.607 (a) (4) and (5) also now require that the period for the reviewing agency to provide comments on a highway project may not exceed 45 days after the request is made and that the comments will be considered by TxDOT to the extent possible.

Section 201.620 TC was amended to require that TxDOT shall coordinate with MPOs for developing the long-term mutually acceptable planning assumptions that would be utilized in the long-range federal and state funding forecasts, as well as use those assumptions to guide long-term planning in the statewide transportation plan

TC Chapter 201 was also amended by adding a new Subchapter I-1. In this subchapter the environmental review process is revised. Section 201.752 (a) requires that the

Transportation Commission (Commission) establish standards for processing an environmental review document for a highway project. The standards must increase efficiency, minimize delays, and encourage collaboration and cooperation by TxDOT with a local government sponsor, with a goal of prompt approval of legally sufficient documents. This standard applies to documents produced by TxDOT or a local government sponsor. They also apply to work performed by the sponsor and TxDOT's internal review process (§201.752 (b)). The standards are required to address for each type of environmental review document (CE/EA/EIS):

1. issues and subject matter to be included in the project scope;
2. required content of a draft environmental review document;
3. process to be followed in considering each type of environmental review document; and
4. review deadlines (§201.752 (c)).

A dispute resolution process must be developed and is required to be concluded not later than the 60th day after the date either party requests dispute resolution (§201.752 (d)).

For highway projects, the standards may provide a process and criteria for prioritization of environmental review documents if TxDOT makes a finding that it lacks adequate resources to timely process all documents it receives (§201.752 (e)). Any standards established under this subsection must provide for notification to a local government sponsor if processing of an environmental review document is to be delayed due to prioritization, and must ensure that the environmental review document for each highway project will be completed no later than one year prior to the date planned for publishing

notice to let the construction contract for the project, as indicated in a document identifying the project under Sections 201.753(a)(1) or (2).

A new Section 201.753 (a) allows local government sponsors to prepare the environmental review document for a highway project if it is identified in the financially constrained portion of the approved state transportation improvement program or the financially constrained portion of the approved unified transportation program; or if it is identified as eligible by the Commission for participation. Subsection 201.753 (b) also allows the local government sponsor to prepare an environmental review document, that is not identified by the Commission or in a program identified under sub-section (a) if the sponsor submits with its notice under Section 201.755 a fee that does not exceed the actual cost of reviewing the environmental review document.

Section 201.754 TC sets out that for an environmental review document prepared by a local government sponsor, the local government sponsor must prepare a detailed scope of the project in collaboration with TxDOT before TxDOT may process the environmental review document. The local government sponsor under Section 201.755 may submit notice to TxDOT proposing that they prepare the environmental review document for a highway project and this must include project scope and request for classification.

Section 201.756 provides the local government sponsor's responsibilities once the notice has been submitted under Section 201.755. It is responsible for preparing all materials for:

- project scope determination;
- environmental reports;
- the environmental review document;
- environmental permits and conditions;
- coordination with resource agencies; and
- public participation.

Under Section 201.757 the local government's submission of the environmental review document must include a statement that it is administratively complete, ready for technical review and is compliant with all applicable requirements. TxDOT, no later than 20 days after receiving the document, shall either issue confirmation that the document is administratively complete and ready for technical review, or decline to issue a letter confirming this.

New TC Section 201.758 sets out procedure for when TxDOT declines to confirm that the document is administratively complete. Within the written response to the local government sponsor TxDOT must specify in reasonable detail the basis for its conclusions, including a listing of any required information determined by the department to be missing from the document. TxDOT shall undertake all reasonable efforts to cooperate with the local government sponsor in a timely manner to ensure that the environmental review document is administratively complete. Subsection 201.758 (c) allows the local government sponsor to resubmit the environmental review document that

is determined not to be administratively complete and TxDOT is required to issue a determination letter no later than 20 days after this is resubmitted.

New TC Section 201.759 sets out a series of deadlines to be included in the standards adopted under Section 201.752. These include:

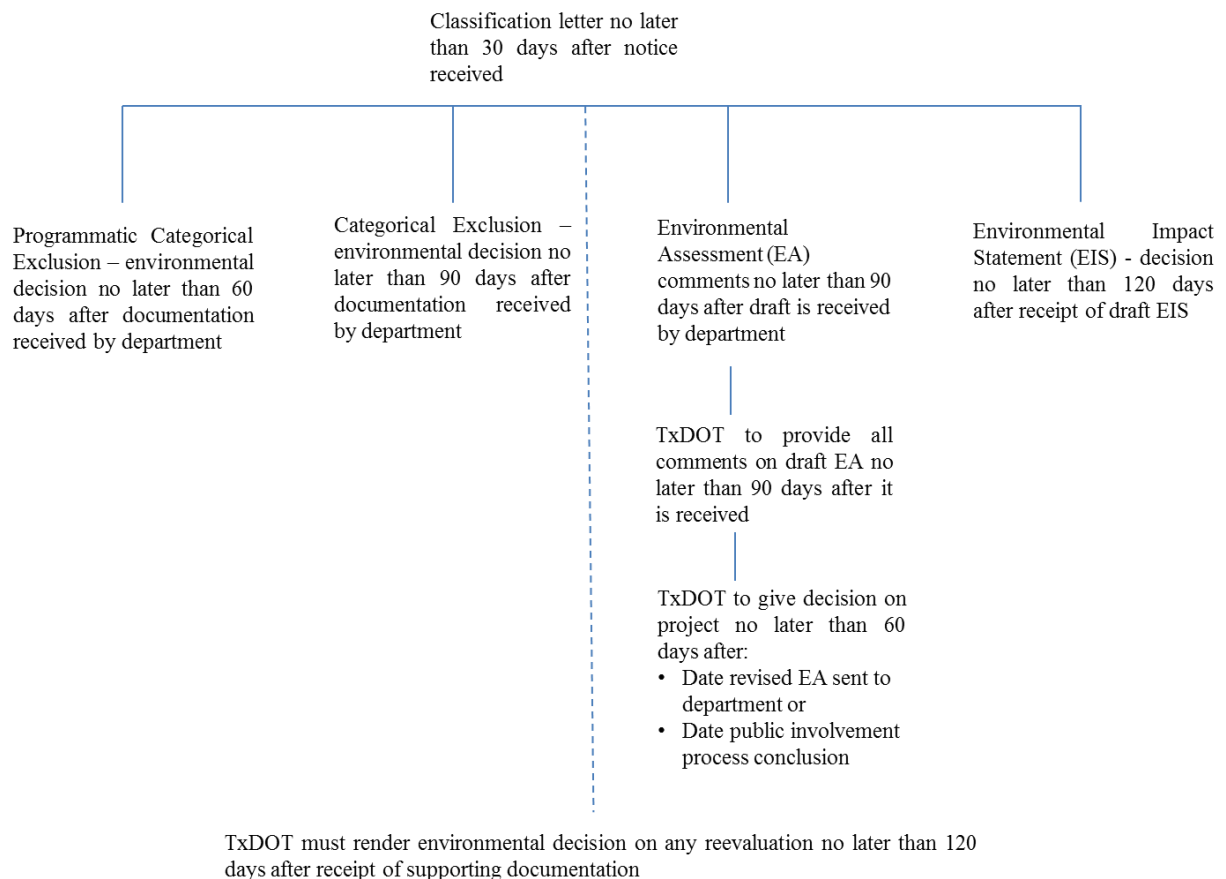


Figure 11: NEPA deadlines

The review deadlines under Section 201.759 do not begin until an environmental review document is determined to be administratively complete, and is suspended during any period in which:

1. the document that is the subject of the review is being revised by or on behalf of the local government sponsor in response to TxDOT comments;
2. the highway project is the subject of additional work, including a change in design of the project, and during the identification and resolution of new significant issues;
3. the local government sponsor is preparing a response to any issue raised by legal counsel for TxDOT concerning compliance with applicable law.

Under the new TC Section 201.761 a local government sponsor and TxDOT may enter into an agreement that defines the relative roles and responsibilities of the parties in the preparation and review of environmental review documents for a specific project. For a project for which an environmental decision requires the approval of the FHWA and to the extent otherwise permitted by law, FHWA may also be a party to an agreement between a local government sponsor and TxDOT under this section.

TC Section 201.762 (a) requires TxDOT to submit twice-annually to the Commission information on projects being processed under the procedures of this subchapter and the status of each project, including:

1. how the project was classified for environmental review;
2. the current status of the environmental review;
3. the date on which the department is required to make an environmental decision under applicable deadlines;
4. an explanation of any delays; and

5. any deadline under Section 201.759 missed by the department.

TxDOT is required under Subsection 201.762 (b) to submit reports to members of standing legislative committees with primary jurisdiction over transportation by December of each year. This includes updates on the implementation of this subchapter, including a status report for the preceding 12-month period containing information described in Subsection (a). These must be posted on TxDOT's website and should include regular updates on the status of projects processed under this subsection.

Senate Bill 1420 also amended TC by adding sub-chapter P regarding the Unified Transportation Program (UTP). New TC Section 201.991 requires that TxDOT shall develop a UTP covering a period of 10 years to guide the development of and authorize construction of transportation projects. The program must identify target funds annually and list all projects that TxDOT intends to develop or begin construction of during the program period. The Commission is required to adopt rules that:

1. specify the criteria for selecting projects to be included in the program;
2. define program funding categories, including categories for safety, maintenance, and mobility; and
3. define each phase of a major transportation project, including the planning, programming, implementation, and construction phases.

TxDOT is required to publish the UTP and any summary documents highlighting project benchmarks, priorities, and forecasts in appropriate media and on its website. Subsection

201.991 (d) requires that when the Commission develops the rules required by this section, the commission shall collaborate with local transportation entities. Section 201.992 requires TxDOT to update the UTP annually and that TxDOT shall collaborate with local transportation entities to develop this annual update.

TC Section 201.9932 requires TxDOT to develop and publish annual funding and cash flow forecasts it expects to receive. The agency is to use this forecast to guide the UTP, and again is required under Sub-section 201.993 (b) to collaborate with local transportation entities in developing scenarios for the forecast based on mutually acceptable funding assumptions. The agency must annually publish by September 1 of each year, a 20 year cash flow forecast.

TC Section 201.994 requires the Commission, in collaboration with local transportation entities, by rule to:

1. establish criteria for designating a project as a major transportation project;
2. develop benchmarks for evaluating the progress of a major transportation project and timelines for implementation and construction of a MTP; and
3. determine which critical benchmarks must be met before a major transportation project may enter the implementation phase of the UTP.

TxDOT shall annually update the list of projects that are designated as major transportation projects.

TC Section 201.995 requires the Commission by rule to:

1. establish categories in the UTP;
2. assign each project identified in the program to a category; and
3. designate the priority ranking of each project within each category.

TxDOT is required under Sub-section 201.995(b) to collaborate with local transportation entities when assigning each project included in the UTP to one of the established categories. Sub-section 201.995 (c) requires that the highest priority projects within an applicable category of the UTP must be projects designated as major transportation projects.

TC Section 201.996 requires the Commission by rule, to specify formulas, which must be updated every four years, for allocating UTP funds to districts and MPOs for:

1. preventive maintenance and rehabilitation of the state highway system in all districts;
2. mobility and added capacity projects in metropolitan and urban areas;
3. mobility and added capacity projects on major state highways that provide statewide connectivity between urban areas and highway system corridors;
4. congestion mitigation and air quality improvement projects in nonattainment areas;

5. metropolitan mobility and added capacity projects within the boundaries of designated metropolitan planning areas of MPOs located in a transportation management area;
6. transportation enhancements project funding; and
7. projects eligible for federal or state funding determined by the district engineer.

Sub-section 201.996 (b) requires that the Commission shall also determine allocation of funds in all other categories of the UTP, including a category for projects of specific importance to the state, including projects that promote economic opportunity; increase efficiency on military deployment routes or that retain military assets; and maintain the ability of appropriate entities to respond to emergencies. In distributing funds TxDOT according to §201.997(b) may not exceed the cash flow forecast required by TC §201.993(c). TC Section 201.998 requires TxDOT districts to develop a consistently formatted work program based of the UTP for four years that contains all projects the district proposes to implement during that period. The work program must contain details on progress of projects designated as major transportation projects (§201.998 (b)), and the work program must be used to monitor and evaluate district performance (§201.998 (c)).

SB 1420 also amended Subchapter A, Chapter 222 TC by adding Sections 222.005 and 222.006 for expedited environmental review and environmental review certification processes.

TC Section 222.005 allows TxDOT, a county, regional tollway authority or a regional mobility authority to enter into an agreement to provide funds to a state or federal agency to expedite the agency's performance of its duties related to the environmental review process for the applicable entity's transportation projects, including those listed in the MPOs long-range transportation plan under 23 U.S.C. Section 134. Sub-section 222.005 (b) notes that an agreement entered into under this section may specify transportation projects the applicable entity considers to be priorities for review; and must require the agency receiving money to complete the environmental review in less time than is customary for the completion of environmental review by that agency. Sub-section 222.005 (c) allows TxDOT to enter into a separate agreement for a transportation project that it determines has regional importance. Any agreement entered into under this section does not diminish or modify the rights of the public regarding review and comment on transportation projects (§222.005 (d)). The agreement must be available on the website of the relevant entity undertaking the review.

TC Section 222.006 requires TxDOT, by rules, to establish a process to certify department district environmental specialists to work on all documents related to state and federal environmental review processes.

Subchapter D, Chapter 472 of TC was also amended by adding Section 472.035 which requires that each MPO shall work with TxDOT to develop mutually acceptable assumptions for the purposes of long-range federal and state funding forecasts and use

those assumptions to guide long-term planning in the organization's long-range transportation plan.

Chapter 5: Out of state interviews/resource agencies

INTRODUCTION

The goal of interviewing resource agencies and states other than Texas was to gain insights into the effectiveness of the practices and efforts made in these states and agencies to link regional and project planning with NEPA. Furthermore, interviewing resource agencies would provide the research team with recommendations for improved communication and coordination between research agencies and TxDOT/MPO's from the point of view of the resource agencies.

The out of state interviewees were identified through a variety of methods. One person was known to the research team beforehand, but most were identified through talking to various state departments of transportation. The states determined to be the most advanced in linking planning and NEPA were chosen through the literature review and appropriate individuals in these states' DOTs were chosen based off of internet searches and recommendations from other individuals within the state DOT.

Furthermore, individuals within FHWA and other state DOTs recommended some states not previously noticed in the literature review as states that may contribute to the research. Phone calls and emails to individuals in these state DOTs garnered the appropriate contacts for interviews. Resource agency interviewees were chosen in much a similar manner. A list of appropriate agencies was developed and at each agency a potential contact person was identified and e-mails were sent requesting an interview. In most cases, the interview was with the initial person contacted, but in some instances the

request was forwarded to other agency staff members who were more familiar with the subject matter or more available to answer questions.

The questions posed to the interviewees were designed to be open ended to encourage discussion. This revealed topics and issues the research team had not considered and enhanced the quality of the interviews. Different sets of questions were used for the out of state interviews and the resource agency interviews. The questions for other states were designed to determine what programs, whether informal or formal, the respective state departments of transportation have that involve linking transportation planning and the NEPA process. These programs could support linkages through a variety of ways such as providing tools to transfer environmental information, encouraging communication between planners and environmental staff, laying out a step by step process describing when to incorporate environmental data in planning, or any number of other possibilities. The questions are designed to determine what exactly each program involves and how effective it has been. In particular, the questions are aimed at determining what type and level of detail of data is shared between planning and the NEPA process and how effective communication strategies can help streamline the process. The questions for the resource agencies, while similar, focused more on communication and coordination between the resource agency and the project sponsor and/or planning agencies. The full list of questions asked during the out of state interviews can be seen in Appendix A, the full list of questions asked during the resource agency interviews can be seen in Appendix B, and a summary of each out of state interview is provided in Appendix C.

The resource agency interviews described in this chapter were conducted by Terry Clower and Michael Bomba from the University of North Texas as part of TxDOT project 0-6701. Most of the writing in this thesis regarding those interviews is their work.

OUT OF STATE INTERVIEW FINDINGS

All of the states interviewed described some sort of practice, process, or procedure they have implemented or are currently implementing to integrate planning and NEPA. Many of these practices can be grouped based on similar themes and numerous state programs employ multiple themes to achieve time and monetary savings.

Table 6: List of States Interviewed

State Interviewed	Division Interviewee(s) Work In
Pennsylvania	Planning Division
Washington	Environmental and Planning Divisions
North Carolina	Environmental Division
Maine	Planning Division
Utah	Environmental and Planning Divisions
Colorado	PEL program
Massachusetts	Environmental Division
Michigan	Planning Division
Oregon	Environmental Division

Table 6 (continued)

Tennessee	Environmental and Planning Divisions
Ohio	Environmental and Planning Divisions
Florida	Environmental and Planning Divisions

GIS based data sharing tools

Three of the interviewed states (Utah, Ohio, and Florida) had designed and implemented GIS based data sharing tools. Each state was extremely pleased with their tool and its effectiveness and all three mentioned that their tools were essential features of their programs integrating planning and NEPA.

While each state's tool is different, there are several common features that all three states felt were critical to the success of a GIS based data sharing tool. The first, and most important, is the universal acceptance of the tool. Universal acceptance means that every agency in the state, whether it be the DOT, the MPO's, the resource agencies, or any other agency, uses the tool and accepts the information in the tool as accurate. This is critical for communication and coordination purposes because one of the principle benefits of such a tool is that everyone uses the same data, thus reducing duplicative data gathering efforts and arguments about whose data is accurate. In many cases, agencies were gathering the same data for their own individual GIS systems, which is a waste of time and money. The universal acceptance component is so important that when developing their GIS system Ohio forced some of the more advanced MPO's to "dumb down" their GIS capabilities to fall in line with the rest of the state.

The second common feature amongst all the GIS data sharing tools discussed is the easy accessibility of the tools. Previously viewing the data represented in the data sharing tools required knowledge using GIS systems and a lot of the data was limited to certain agencies. The tools used by Utah, Ohio, and Florida, while they require knowledge of GIS computer programs to create and maintain, are web based systems that can be accessed from any computer. There are restrictions on what information different individuals can access (detailed locations of endangered species for example) but in general the information is much more available and the web based platforms are easier to use.

The third common feature amongst the GIS data sharing tools implemented in Utah, Ohio, and Florida is they are not intended to replace on the ground studies and detailed analysis required for NEPA reviews. The data in the tools is not nearly to the level of detail required for full blown NEPA documentation. Rather the tools serve as early scoping, problem identification, and early coordination tools. The tools allow transportation planners to see what potential problems their proposed projects may have and allow environmental staffers to narrow the focus of their reviews at an early stage in project development. Furthermore they're easy accessibility allows potential stakeholders (such as resource agencies) to see what transportation planners are thinking and allows them to raise concerns they may have at an early stage. Florida and Utah in particular use their GIS data sharing tools to elicit feedback from resource agencies and environmental staff early in the planning stage.

A unique feature of Utah's data sharing tool (UPlan) that deserves mentioning is the "PEL report". Basic project parameters (estimated locations and type of project) are inputted into UPlan and the program automatically generates a PEL report that summarizes the potential environmental issues the project may face. The PEL reports have been well received by resource agencies and staff within Utah's DOT. The state's long range transportation plan is done in UPlan, with specific projects shown on a map of the state. Each project in the long range plan has a link to a PEL report, allowing resource agencies to easily analyze projects at a high level and provide comments to planners. The PEL reports have also streamlined the NEPA documentation process in two ways. First, Utah's DOT has entered into an agreement with FHWA to allow PEL reports to serve as sole justification for a CE (if the report suggests there are no environmental impacts). Thus, the environmental review process for small and not environmentally sensitive projects has become more efficient. Second, the PEL reports act as early scoping tools for later NEPA studies for EA's and EIS's.

Screening Form tools

Two states in particular (Pennsylvania and Oregon) have implemented screening forms designed to link the planning process with the NEPA process. The purpose behind these forms is to succinctly summarize any information developed in the planning process that may be useful in the NEPA process. Oregon's "project planning reports" are the simplest version of this and are effective when used. The project planning reports are designed to be filled out by a planner and given to a project leader as a project transitions from planning to project development. At this stage, the forms focus more on information

developed in project planning but there is some information on the forms regarding information that may have been developed in long range planning.

Pennsylvania has put more effort into their screening forms, effectively linking both long range planning and project planning with NEPA. They have done this by developing three different forms to be filled out at various stages along the planning and project development timeline. In order to advance in the planning process, the appropriate level of form must be filled out for a project. The first form deals with assessing the problem and identifying potential solutions, the second form contains information on the overall planning analysis, and the third form is a detailed vetting analysis of a project. The forms act as early scoping agents for a full NEPA review if the project advances that far.

Furthermore, the screening forms are semi-automated, incorporating GIS data such as environmental resource, endangered species, etc. and asset information such as roadway information and bridge information. A transportation planner simply inputs the location of the project and any available information is automatically included in the form.

Rewriting Project Delivery Process and Manuals

Several states have instigated linkages between planning and NEPA, by simply re-writing their planning, environmental, and project delivery manuals to reflect linkage principles. These states include Pennsylvania, Maine, and North Carolina. Many of these manuals include common themes derived from SAFETEA-LU or through research done in individual states. These common themes include encouraging early communication and coordination, breaking the project delivery process into steps and identifying documentation requirements for each step, and clarifying roles and responsibilities for

specific tasks or steps. By specifically outlining a process that includes linkages between transportation planning and NEPA, these states have made it easy for their employees to follow the process. In contrast, implementing disjointed initiatives to link planning with NEPA can be confusing for staffers tasked with performing the required tasks. Outlining the process shows how different tasks can be linked and how information can flow between planning and environmental departments. More specifics for the processes designed by the individual states of Pennsylvania, Maine, and North Carolina are presented below.

Pennsylvania initiated a program designed to streamline the project delivery process and as part of this program they began integrating principles from the program into their design manuals and guidebooks. This included developing a seven step process that carries a project all the way through design and construction. The seven steps include:

1. Problem assessment
2. Problem identification in the long range plan
3. Proposal initiation
4. Proposal definition
5. Project identification in the TIP and/or STIP
6. Preliminary engineering and NEPA
7. Design and construction

To pass through the first four steps, the screening forms discussed in Section 5.2.2 must be completed, thus carrying forward the information from the first four steps to the NEPA process in step 6. The manuals detail exactly what information needs to be

developed in each step and identify which agencies are responsible for developing the data or making decisions. Furthermore, in each of the seven steps coordination and communication are stressed.

Maine initiated Integrated Transportation Decision Making (ITD) over 20 years ago and as a part of the program developed a ten step project delivery process for major projects requiring an EA or EIS. Of the ten steps, the first two are transportation planning and early scoping (the other eight are the steps of the NEPA process). In these first two steps, big picture project information is developed. There is flexibility, depending on the project, with exactly how much information is developed in the first two steps, but the process still outlines how this information should be documented and who is responsible for documenting it. In each step, communication and coordination are highlighted as key components.

North Carolina began integrating NEPA with planning through a program called Integration in which eight linkages between the two processes were identified. The goal was to identify how each linkage can be exploited to streamline the project delivery process. As of the interview date with North Carolina DOT representatives, one linkage had been fully implemented into procedure manuals and guidebooks, five linkages were scheduled to be fully implemented by the end of 2012, and the remaining two linkages were still in the early stages of development. The first linkage connects a problem statement in planning with the purpose and need statement of a NEPA review. Under the procedures implemented for the first linkage, transportation planners are required to draft

a problem statement that can be transitioned to a purpose and need statement either in the original plan or upon the request of a NEPA practitioner. In this way, information developed in planning that is relevant to a purpose and need statement is passed to the staffers preparing NEPA documents.

FHWA's PEL program

Several states, including Colorado, Michigan, and Tennessee, use the PEL program initiated by FHWA. Of these three states, Michigan and Tennessee really only use the PEL Questionnaire as a scoping tool for projects. They feel it is an effective tool, but Tennessee has only recently begun to use it and Michigan lacks the resources to put more of an effort into using it. Colorado on the other hand has taken the PEL program and done a great deal of work adapting the program to their specific requirements.

Initially Colorado started out using the PEL Questionnaire, which did a good job of identifying what questions should be answered in the scoping stage regarding NEPA and how is this information communicated down the line. The problem Colorado had in using the PEL Questionnaire was that it doesn't provide much guidance on how the information it conveys translates into decisions on a project. To solve this problem, Colorado is developing a handbook to be used in conjunction with the PEL Questionnaire. Ideally, a planner would complete the questionnaire and then consult the handbook to determine the next step in the process.

Colorado's handbook, although as currently constituted is only a draft, basically takes a planner through the process of drafting a PEL study, which is a study designed to

transition a project from planning to NEPA. The PEL study includes information on identifying the project's scope, defining the existing and future transportation system (including identifying the purpose and need for the project), defining and screening a range of preliminary alternatives, assessing the potential impacts and mitigation measures associated with the project, and identifying next steps in the NEPA process. The handbook also discusses what documentation is required in a PEL study and what various stakeholders are required to do in a PEL study.

Coordination Points

Coordination points are points along the project delivery timeline at which stakeholders are required to come together to agree on the progress of the project. North Carolina, Maine, Colorado, and Tennessee have implemented coordination points in some form with success and Washington attempted to implement a coordination point program but terminated it when it was determined to be less successful than was hoped. The principle purpose behind coordination points is to ensure early coordination with relevant stakeholders such as resource agencies, permitting agencies, local governments, etc. Typically the project cannot move forward unless all of the stakeholders agree on the progress of the project at each coordination point. Once agreement is reached, the stakeholders cannot change their minds unless the project conditions change in some way. The reason for this strictness and finality is it prevents situations where significant progress is made on a project only to see a resource agency decide some decision from several months prior is unacceptable, wasting the time and money spent on developing the project. This strictness has its downsides however, as it can make settling on an acceptable decision difficult in some circumstances. This is the reason Washington

canceled its coordination point program—project development slowed down too much because it was too difficult to get all agencies to agree on issues. It is also for this reason that some states (Maine in particular) allow some leeway regarding requiring absolute agreement. Conditional agreement, where a stakeholder agrees with the progress of a project provided some condition is met at a later date, is one way of putting some leeway in the process.

The location and number of the coordination points varies from state to state, although all are relatively similar. Washington had three coordination points and six consensus points, the consensus points differ from the coordination points in that absolute agreement amongst stakeholders was not required to progress from a consensus point. The coordination points for Washington required agreement on a purpose and need statement, on the alternatives to be considered in the draft EIS, and on the selection of the preferred alternative and mitigation plan. North Carolina and Tennessee's coordination points are centered on the purpose and need statement, the alternatives analyzed, the selection of the preferred alternative, and the mitigation plan, with the alternatives analyzed and mitigation plan having sub-coordination points. Maine utilizes coordination points at the end of each step in its ten step process, making its coordination point plan the most extensive (it extends from transportation planning all the way through project implementation and monitoring). Finally, Colorado's coordination points are placed at various points along the timeline of a PEL study. Specifically, the three coordination points are after the purpose and need statement is developed, after the

alternatives analysis is done and a proposed action is chosen, and after the entire PEL study is complete.

Planning and Environmental Staff Integration

Numerous states have implemented programs designed to encourage environmental and planning staff to work together. North Carolina, Maine, Ohio, and Florida in particular stand out in their attempts. The idea behind these attempts is that if transportation planning officials understand what goes into NEPA documents they would know whether some information might be beneficial. Conversely, if environmental staff understood the planning process better they would be able to make reasonable suggestions for information they feel should be included in transportation plans and they would be able to better understand the data and documentation associated with transportation plans.

Several common methods were used to achieve this improved integration. The first is cross training planning and environmental staff to allow at least a basic understanding of both processes. The second method involves combining the staff so that planning departments have individuals with experience performing NEPA reviews and environmental departments have individuals with experience writing transportation plans.

This method provides the added benefit of automatically establishing relationships between the sections as the individuals removed from one group and placed in another still have contacts and relationships with individuals in their previous group. An alternative to this method is to develop a “coordination” group with individuals from planning and environmental departments whose job is to help bridge the gap between the environmental and planning sections. A third common theme is required meetings between environmental and planning staff to discuss upcoming projects and generally to

coordinate their efforts. While the states mentioned above don't use all of these techniques, each of them uses several and the techniques appear to be successful.

Informal Initiatives

Some states have been able to work on linking planning with NEPA without having a formalized program. These states include Massachusetts, Michigan, and Oregon. These programs rely on the initiative of upper level management pushing staffers to perform best practices and the success or failure of these practices is dependent on the acceptance of all involved to carry them out. Oregon for example, has an agreement with resource agencies (CETAS) that encourages early coordination and communication, but it is not binding in the way that an agreement requiring coordination points would be. Thus it is difficult to fully enforce the agreement, especially if there is a lack of support from certain key individuals. Massachusetts on the other hand has been successful in implementing best practices that link NEPA with planning because the upper level management in the state DOT is committed to implementing the practices.

Massachusetts plans on shortly drafting guidelines and manuals describing a process that integrates planning and NEPA. Michigan is facing different issues than many other states in the country due to lack of funding (Michigan DOT hasn't done an EIS level project in ten years because all of their money is spent on maintenance). As a result they can only focus on low cost initiatives such as improving coordination. Improving the DOT's relationship with FHWA is one such way they have tried to streamline the project delivery process without any available funds.

Resource Requirements

The various programs, processes, practices, and procedures described by state DOT's around the country all required resources to implement. Many of the individuals interviewed were unsure of the exact amount of resources required to implement their programs, but they were able to provide a general estimate. The most expensive program surveyed was Florida's Efficient Transportation Decision Making (ETDM) program which cost an estimated \$31 million since 2004. Of this, about \$16 million was an initial investment and the rest has been spent on maintaining and improving the program. Pennsylvania spent approximately \$1 million automating their screening forms and is planning to spend another \$500,000 to link these forms to their CE database so that their system will work similarly to Utah's PEL reports. The other states estimated that several staffers along with consultants were used to outline and draft the programs, but they were not sure what the monetary costs associated with these resources would be.

OUT OF STATE INTERVIEW CONCLUSIONS

As was expecting going into these interviews, some states are clearly ahead of their peers with regard to linking transportation planning and the NEPA process. North Carolina, Colorado, and Pennsylvania appear to have made the most progress developing step-by-step processes that successfully link NEPA with transportation planning. The actual handbooks and design manuals in these states are not quite completed, but what they have accomplished so far and they're methodologies for developing the manuals should be emulated.

On the other hand, Florida and Utah are clearly ahead of the field when it comes to sharing environmental data. In many ways the automated reporting features used by these two states obviate the need for any sort of step-by-step process. Utah DOT can automatically create a PEL report, which includes all relevant environmental data for a project, for every project in the long range plan. Florida's program is very similar, allowing resource agencies and environmental staff to see environmental screening data for every project while the projects are still in the planning phase. These GIS data sharing technologies have revolutionized how environmental information can be passed from planning departments to NEPA practitioners. The downside of course is the expense. The tools cost millions of dollars in investments in new technology, staff time and resources gathering all of the data, and even more time and resources setting up the system and training everyone in its use.

Other states have been able to successfully implement less formal programs that link transportation planning with the NEPA process. A common theme among all of these states is the presence of strong upper management support or a high level champion to push the initiatives forward. This is especially prevalent in states such as Massachusetts, Ohio, and Tennessee and the lack of upper level support has crippled grassroots initiatives in Oregon.

Coordination between resource agencies, MPO's, transportation planners, NEPA practitioners, and all other stakeholders is extremely critical to streamlining the project

delivery process. Early coordination between resource and regulatory agencies is critical to ensure continued support throughout the project and to reduce delays from these agencies. North Carolina and Tennessee use programs with concurrence points to prevent resource and regulatory agencies from backtracking on project decisions and to ensure participation throughout the project. Other states such as Colorado, Maine, Oregon, Florida, Pennsylvania, and Ohio have used MOUs, regular coordination meetings, and feedback sessions during design of their project delivery processes to facilitate coordination during the project development process. Coordination between transportation planners and NEPA practitioners is especially important so that relevant environmental information can flow from the transportation plans to the NEPA documents smoothly. Several states have instituted programs to encourage this coordination, most notably Florida, Ohio, and Maine, all of whom have gone so far as to either combine or at least cross populate the two offices.

From these interviews a basis for recommendations to TxDOT can be established. For one thing, it is clear that some program for interagency coordination is necessary. A formal program is preferable, perhaps even with concurrence points along the project delivery process, but not necessary provided there is enough upper level pressure to encourage cross agency communication. The other clear message from the interviews was that some sort of tool for sharing environmental data is extremely beneficial.

Florida, Utah, and Ohio were pleased with their statewide GIS databases that automatically produced environmental reports for projects and how these reports formed a solid foundation for the NEPA process. Finally, it was universally accepted that having strong

support from upper management or a champion in upper management (preferably a director of a division) plays a huge role in how effective any new program will be. Even the best of ideas will fail without proper support.

RESOURCE AGENCY INTERVIEW FINDINGS

Summary of Resource Agency Comments

One finding from the interviews was that efforts to link planning with NEPA appear to only be considered or pursued by federal resource agencies, at present. Among the federal agencies that were interviewed, FHWA appears to be at the forefront of linking with planning with NEPA, but USFWS had initiatives underway, as well. The relationship between state resource agencies and TxDOT, on the other hand, is more rigidly defined by existing Memorandums of Understanding (MOUs), which outline the responsibilities and obligations of TxDOT and the state resource agency. The resource agencies' primary concerns, which are the concerns that were mostly documented during the interviews, revolved around the current process of reviewing NEPA documentation. Generally, the resource agencies held a positive opinion of TxDOT's efforts at environmental compliance. However, some interview participants expressed frustration with environmental review process as it currently exists. These frustrations were not necessarily oriented towards a desire for greater streamlining, but concerns that the current environment review process was not adequately minimizing, avoiding, or mitigating project impacts to the degree that is possible.

Concerns with a linkage program

When queried, the interview participants had mixed opinions about whether or not it would be worthwhile to attempt to join the transportation planning and NEPA process. The most common concern was that planning documents usually do not contain sufficient detail to be transferred to NEPA documentation. And, even if these documents did include usable information about the human or natural environment (and many do not), the context of the data would often be regional in nature not project-specific. Another concern was that planning documents are typically prepared for the medium- to long-term (say, 5 to 25 years) and may still be in use three to five years after they were initially written. NEPA documentation, on the other hand, must include the most recently available data. Constantly changing elements, such as land use or vegetation cover could be significantly altered over only a few years in a rapidly developing region. Regardless, most or all of the participants were supportive of combining reference material from planning documents into NEPA documents, if the threshold for NEPA's demands could be met. However, many questioned if that would be possible in most cases.

Most of the interview participants were unsure if significant reductions could be made to the time requirements of the environmental review process by linking planning with NEPA. Many participants pointed towards existing MOUs with TxDOT as an existing and effective tool to streamline the environmental review process and one that addresses many of the previous issues with inadequately prepared documents, ambiguous review timelines, and inadequately delineated agency responsibilities. Additionally, many of the participants pointed out that both the federal NEPA and the state environmental review

processes have existing rules, laws, and regulations that must be followed, which include providing opportunities for public participation. The public participation process afforded under NEPA and under other agency coordination, such as Section 106 of the National Historic Preservation Act of 1966, offer “interested parties” multiple opportunities to challenge the review process, both under NEPA and Section 106. Additionally, as interested parties, these individuals or groups do not have to be directly impacted by the proposed action to present a challenge. The consequence is that project opponents who understand the NEPA process and other regulatory components can slow the review process considerably by challenging it. Under these circumstances, the resultant delays are difficult to predict, as well as to avoid. In the end, working through procedures that have been delineated for the NEPA process takes time and there must be reasonable allowances provided to the resource agencies to comment on documents. At some point, as many of these agencies argued, the timeline for environmental compliance activities cannot be compressed any further.

Early coordination efforts

From the perspective of the resource agencies, a project does not officially begin until the draft document for a project is submitted. Therefore, it is not required that project sponsors communicate with the resource agencies prior to submitting a draft document. Nonetheless, most of the study participants responded that project sponsors occasionally or more frequently will engage in early coordination, if the project’s sponsor believes there will be substantive environmental concerns. Almost every resource agency interviewed encouraged more communication between the project sponsors and TxDOT.

Staff from a number of the resource agencies believed they had little insight into which new projects were being proposed, where they might go, and what their potential environmental impacts might be. The agency's interest in knowing is based upon a desire to influence the early stages of the scoping process so that proposed alignment either avoid or produce minimal impacts upon sensitive cultural or environmental features. On a positive note, most resource agencies said that TxDOT often initiates contact with the resource agencies, when there are known sensitive environmental features. However, this early coordination is not universal and several interview participants reported instances when a TxDOT District or other project sponsor (like an Regional Mobility Authority-RMA) has avoided early coordination, even though there were known environmental issues. When these projects enter into the review stage, they often receive significant comments and requests for mitigation, which then delay the project's environmental approval. These delays, in turn, often affect the letting schedule of a project, which creates further complications for the project sponsor. These situations can sometimes lead to significant pressure being placed upon the resource agencies to quickly approve these projects, despite the agency's concerns about its impacts. In some instances, the resource agencies reported, these situations can be avoided through early coordination.

Concurrent processes

Some of the interview participants suggested concurrently preparing the NEPA documentation with other required agency coordination and studies, such as that required for Section 106, Section 404 of the Clean Water Act, Section 4(f) of the Department of

Transportation Act of 1966, and Endangered Species Act documentation. This concurrent effort could offer opportunities to bring projects to the letting phase more quickly, since these agency coordination studies require even more detailed information than the project's NEPA documentation and the information acquired for them could be incorporated into the NEPA process. However, TxDOT and other project sponsors typically prepare these studies after a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD) has been issued. Waiting for approval of the NEPA document means that the sponsoring agency must only prepare coordination studies for the final approved alignment. If the coordination studies are prepared concurrently with the NEPA process, all alignments must be studied equally, not just the technically preferred alignment. The studies could be limited to the technically preferred alternative, but if that alternative is ultimately determined to be unviable, then new studies would have to be prepared. Preparing coordination studies for additional alignments would add cost to a project and the project sponsors would have to determine if an expedited timeline would justify the added expense. Some TxDOT's District are starting to prepare concurrent documentation for some projects and are finding that it is having positive impacts on reducing the length of the environmental review period.

TxDOT review process

Most study participants responded that were satisfied with TxDOT-ENV's review of environmental documents, prior to their submission to the resource agencies. These "pre-reviews" were reported as being very desirable by the resource agencies because (they suspected) TxDOT-ENV identifies and handles obvious problems with environmental

documents, prior to them being submitted for review. All of the resource agencies that were interviewed reported very heavy workloads with limited staff. In some cases, resource agencies review hundreds or even thousands of environmental compliance documents each year. While not all of these documents require a significant amount of staff's resources, there is still a sizeable share that do, with a substantial share being related to TxDOT's projects. TxDOT-ENV's preliminary review helps diminishes the delays that avoidable comments often create.

Categorical Exclusions

Several of the interview participants touched upon the use of the categorical exclusions. There were ongoing concerns that categorical exclusions are being used by TxDOT and other project sponsors more than is justified, especially due to the practice of project segmentation. Project segmentation is act of the splitting of a single project into multiple projects, which often means less rigid environmental documentation for each of the parts than would be required for the sum of the whole. Project segmentation may occur for a variety of reasons: staggered funding for a project; multiple funding sources; multiple project sponsors, etc. Regardless, project segmentation makes is almost impossible for resource agencies to accurately determine the impacts of an overall project or to discuss overall impacts in the context of a localized project.

Staff training

Several agencies also expressed concerns that some TxDOT staff preparing or reviewing environmental documents were not adequately trained or experienced to be doing the

work. More specifically, they stated that TxDOT environmental staff without the proper training found it difficult to place project impacts into their proper context. This missing context usually meant a failure to understand how a project's impacts could affect the larger set of cultural or natural resources in which it was a part. The resource agencies also reported that some TxDOT staff instead relied upon very literal definitions of impact areas or visited project study areas during certain periods during the year when the potential impacts were unlikely to be observed and then extrapolated these findings to the entire year. The practical consequence is that documents sometimes have incomplete, misinterpreted, or incorrect information. This situation can complicate the review process and generates more comments from the resource agencies and, ultimately, project delays.

Finally, most agencies reported receiving paper and digital versions of documents, although not always consistently. All the agencies reported receiving paper copies of environmental documents, which the staff members prefer for their reviews. However, digital copies of reports were not always available. The paper format is preferred for reading and close examination, while the digital format is preferred for searching within documents. Some agencies reported that they had difficulties receiving electronic files from TxDOT or receiving files that are over a certain size (e.g. 10 MB) by e-mail, due to system size limits on file attachments. Occasionally, there were also some reports of receiving incomplete documents

Resource Agency Interview Conclusions

Based upon the results of the agency interviews, a number of recommendations were prepared for consideration by TxDOT. In some instances, these recommendations were made directly by a resource agency, while in other cases they are synthesized from comments made by one or more interviewees. Many of these suggestions only require a change of practice to implement. Others, however, would require that TxDOT expend funds to alter or enhance current procedures. The recommendations are listed below:

- Strongly encourage TxDOT Districts and other project sponsors to initiate early coordination, when there are known environmental issues, especially for significant projects, but for lesser projects as well – Linking the transportation planning process with the NEPA process could help planners identify potentially important environmental constraints during the project scoping stage. While experienced project personnel typically engage resource agency staff early in the scoping process, when there are known issues, many resource agencies reported that less experienced consultants or agencies (including some TxDOT Districts) are more likely to initiate their first contact with the agency after the submission of the draft document. If there are resource agency concerns within the project study area, the lack of early coordination could lead to a longer review period and more extensive mitigation. These consequences, in turn, can lead to delayed project letting and construction. For projects perceived to be without significant issues, succinct communication with the resource agencies could help confirm that no major issues exist, but extensive communication should be avoided unless it is warranted.

- Schedule annual or biannual briefings with resource agencies to update them on proposed projects – During the interviews, several resource agencies said they maintain good communication with TxDOT for projects that are under review or construction. However, most agencies reported that they often have no knowledge of which projects TxDOT has in the planning phase or knowledge about projects that other sponsors are working on, unless they are engaged in early coordination. The process of regular meetings would provide the resource agencies with additional opportunities to identify possible concerns that could be incorporated into a project’s scoping process and potentially avoid problems during the document review.
- Avoid project segmentation – Project segmentation is the act of splitting large projects into multiple smaller projects. Projects may be segmented due to different funding sources, the timing of funding, letting schedules, etc. While these can be valid reasons for splitting project within TxDOT’s practices, they can ultimately create difficulties during the NEPA review process. Resource agencies attempt to fully assess the direct, indirect, and cumulative impacts of proposed projects and make certain assumptions about the conditions of the surrounding environment after a project is completed. When projects are parsed, it becomes difficult or even impossible for them to adequately and confidently comment on a project’s environmental impacts.
- Prepare guidance documents and training for TxDOT environmental staff, outside project sponsors, and consultants – There is an ongoing need for TxDOT environmental staff, outside project sponsors, and environmental consultants to

have up-to-date reference materials and training sessions. Unlike engineering procedures, which change predictably through the adoption of new standards, the criteria for reviewing and preparing NEPA documents can change unpredictably according to court cases and legislation. Elements of the recently passed MAP-21 transportation reauthorization bill provide a good example of how the assumed methods of environmental compliance under NEPA can change unexpectedly. Under these circumstances, the preparers and reviewers of environment documents need to have materials that will assist them with correctly interpreting the new rules and provide them with updated information on how to prepare and review documents.

- Certify that qualified individuals prepare and review NEPA documents – Several agencies commented that, in their opinion, some preparers and reviewers of NEPA documents do not have adequate training to perform their assigned tasks. In some instances, they may be credentialed, but they reported that document preparers and reviewers do not have adequate training and understanding of the subject matter. TxDOT should consider working with resource agencies to develop a set of requirements and possibly a certification for subject matter experts, document preparers, and document reviewers.
- Continue supporting the joint development of database tools that can be used by state resource agencies to expedite NEPA document review – In the recent past, TxDOT has contributed material support to create the Texas Historical Sites Atlas, in conjunction with the Texas Historical Commission. This online atlas has become a valuable tool during the scoping phase of projects, as well as during the

review of NEPA documents. There are currently other databases being proposed by state resource agencies to improve the project scoping and document review process. As budgetary allowances and in-kind contributions permit, TxDOT should consider providing material support to state agencies willing to build databases that expedite environmental review for its projects.

- Continue coordinating with RMAs to educate them about the NEPA process – While RMAs and tolling authorities in large Texas cities are generally well-staffed with experienced transportation planners and engineers, the staff members at Texas’ smaller RMAs may not be fully familiar with the NEPA process or may be unable to provide the level of support required to oversee NEPA document preparation. Since, there are strong linkages between TxDOT and the local RMAs (which include funding support), it may be in TxDOT’s interest to provide the RMAs with resources (training, reference materials, and technical assistance) that will allow them to better comply with NEPA and better oversee and direct the consultants who prepare environmental documents for their projects.
- Provide resource agencies with paper and digital copies of documents. Develop an interoperable drop box system so electronic files can be easily transferred, regardless of their size – Some, but not all, agencies reported that they received draft documents in paper and digital format. Essentially all of the participants preferred to receive both paper and electronic versions of documents. None of the participants stated a desire to only receive electronic copies of documents and most pointed out that receiving only an electronic version would make their job more difficult. The use of an existing or the creation of a new platform,

- consistent across TxDOT, which would allow resource agencies to quickly find and download documents, was mentioned several times as a desired improvement.
- Jointly sponsor initiatives to identify best practices for minimizing project impacts, avoidance, and mitigation – There may be opportunities to streamline the environmental review process outside of changes to the document preparation and review procedures. These other methods may be based upon TxDOT and other project sponsors developing or incorporating new practices that minimize or avoid project impacts. This goal might also be achieved by developing different types of impact mitigation. However, for this effort to be successful, it likely needs to originate within a cooperative setting outside of TxDOT's current MOUs procedures. High-level working groups, joint agency research projects, or Governor or Legislative-appointed panels could establish conditions where agencies are able to communicate freely and work towards common ground, without the existing pressures of the NEPA review process.

Chapter 6: In state interviews

INTRODUCTION

The objective of the Texas interviews was to determine the state of practice in how agencies in Texas conduct planning, develop policies, and coordinate with other agencies during the planning process and when preparing NEPA documents. Furthermore, the interviews would ideally identify best practice and/or policy recommendations in delivering planning documentation that expedites NEPA and other environmental reviews.

The interviewees were identified through several methods. Going into the interviewee selection process, the goal was to interview people from multiple MPO's, TxDOT districts, and TxDOT divisions. Ideally these people would be a mix of individuals working in environmental sections and individuals working in transportation planning offices. Many of the people were identified through the research team's contacts at TxDOT. These people accounted for the majority of the interviewees at TxDOT's division offices and several of the district and MPO interviewees. The rest of the interviewees were identified through email or phone solicitation or through internet searches.

The questions were designed to identify the current practices regarding NEPA and transportation planning processes and whether they were currently being linked. The questions were further designed to identify concerns/issues with the current project development process so that these concerns could be addressed in later tasks. The

questions were intended to be general and open ended to encourage discussion and allow the interviewees to talk about issues they felt were important and relevant. A full list of the questions asked in the interviews as well as summaries of each interview can be found in Appendix C and Appendix D respectively.

IN STATE INTERVIEW FINDINGS

The in-state interviews consisted of interviews with individuals from MPO's, TxDOT district offices, and TxDOT divisions. Generally the interview results were consistent across these three groups in the sense that most of the MPO interviews produced similar results, most of the district interviews produced similar results, and most of the division interviews produced similar results.

MPO's

The MPO's are responsible for regional long range plans (MTP's) and regional transportation improvement programs (TIP's). As a result, most MPO's don't get very involved in the project development process, with the notable exceptions of the Dallas and Houston area MPO's (NCTCOG and HGAC respectively). Smaller MPO's in particular don't have the resources necessary to actively participate in the project development process. Indeed the smaller MPO's interviewed (Corpus Christi, Waco, and Tyler Longview) stated that the only work they do that could be considered linking NEPA with planning is a high level environmental analysis based off the NEPAAssist program provided by the EPA. NEPAAssist allows the MPO's to easily identify some preliminary environmental concerns and fatal flaws, potentially leading to preliminary mitigation ideas. The smaller MPO's lack the resources; however, to identify more

environmental concerns in their regions and don't have the expertise on staff to be able to adequately prepare planning documents that greatly assist NEPA reviews. Even the medium sized MPO's such as the Austin area (CAMPO) and San Antonio MPO's don't do a great deal of environmental work beyond using NEPAssist. Of course, smaller MPO's are far less likely to see projects that require an EIS level of study.

NCTCOG and HGAC are more active with regard to being involved in the project development process. NCTCOG has dedicated staff involved with NEPA documents for projects and they do environmental modeling and studies. In many cases, NCTCOG environmental staff help and guide individuals from other agencies who may actually be responsible for the NEPA documents on a project. The principle benefit of this close involvement with the project development process is the conformity it provides between long range planning all the way through the project development process. When NCTCOG does planning documents, they purposely draft them in such a way that the information can be used in NEPA documents. NCTCOG hired a person with experience drafting NEPA documents specifically for this purpose. Similar to NCTCOG, HGAC is trying to begin doing environmental work early in the planning process. Currently HGAC is trying to incorporate more alternatives analysis work into their MTP, but for most projects information related to purpose and need is generally all that's available at the long range planning level. HGAC does do feasibility studies for major projects that provide environmental information that can feed into NEPA reviews. Furthermore, preliminary design work and early scoping are performed by HGAC to try to eliminate alternatives at an early stage (after long range planning but before programming).

TxDOT Districts

The TxDOT district offices are usually the agencies sponsoring projects and are therefore usually the agencies responsible for developing NEPA documents. As such TxDOT districts have to work closely with MPO's to make sure their projects match MPO transportation plans and with TxDOT divisions to get support and approval for environmental documents. Similar to the situation faced by the MPO's, the larger more urban districts tend to have more resources to perform environmental reviews and need less help from the TxDOT divisions. One benefit the smaller districts have is improved communication between environmental and planning staff as they usually work in the same office. The smaller districts such as Bryan and Waco tend to be straightforward with their NEPA reviews and use consultants for the bulk of their work. Indeed, much of the work the smaller districts do involves ensuring conformity with transportation plans. Federal law requires projects be fully funded and accurately described in transportation plans before NEPA reviews can begin, which is one of the more difficult tasks faced by the district offices. Finding adequate funding for projects in a timely manner is difficult and updating transportation plans to reflect changes made to a project is a constant process for the district offices.

The larger districts such as Dallas and Houston have do more in-house environmental work (although they still use consultants for a lot of their work) and generally can take more information from their MPO plans. The Dallas district interviewees in particular mentioned that they frequently work with their MPO (NCTCOG) because the MPO will perform preliminary environmental analysis such as air quality studies. Larger districts

also face some of the same problems smaller districts do as they also struggle to find adequate funding in a timely manner for projects and spend a great deal of resources working with MPO's to update transportation plans and meet federal requirements.

TxDOT Divisions

The TxDOT Divisions interviewed for this research included the Environmental Affairs division (ENV), Transportation Planning and Programming division (TPP), and the Strategic Project Development division (previously part of Texas Turnpike Authority). ENV is the division responsible for reviewing environmental documents from the districts before they are submitted to FHWA and for providing support to the districts regarding drafting NEPA documents, performing environmental studies, clarifying policies and procedures, etc. TPP is the planning division of TxDOT and is responsible for the statewide long range plan, working with TxDOT districts to perform regional planning in areas MPO's aren't responsible for, the statewide transportation improvement program, and acts as the central clearinghouse for project selection. The Strategic Projects division deals with toll roads, including environmental analysis, as well as some special projects that fit certain conditions (public-private partnerships). The Strategic Projects division is involved in a few PEL studies in the San Antonio area which are currently being treated as pilot projects and if successful may result in more PEL studies being done for major projects. Other than these projects however, Strategic Project division's role in transportation planning and environmental review is minimal and is generally limited to toll roads. Most of the planning and environmental work is done by TPP and ENV.

TPP does attempt to take into account environmental concerns in its transportation plans. Much of this work is done when project needs are identified and a corridor study is conducted. Early alternatives analysis and fatal flaw elimination is done at the corridor level, but much of the information is very preliminary. ENV on the other hand deals directly with environmental documents and is not involved extensively with transportation plans. Even if there is information to be taken from transportation plans, this is the job of the districts and MPO's while ENV's task is to review the documents and provide help when required. After reviewing environmental documents, ENV sends the documents to FHWA. Ideally FHWA has been involved in the process from the start and final approval is not difficult.

IN STATE INTERVIEW CONCLUSIONS

The interviews revealed a wide variety of practices throughout the state regarding how the NEPA and planning processes are conducted. The interviews also revealed many different opinions on how these processes could be improved or linked. This was expected as people from different agencies facing different circumstances would be bound to have differing opinions. Despite these differences, there were several common themes and recommendations identified in multiple interviews that form the basis for the general conclusions reached from the in-state interviews. These commonalities include:

- Very few agencies or districts have attempted new initiatives that involved integrating the NEPA and transportation planning processes. The project sponsor (usually the TxDOT district) is responsible for the NEPA review process and the local planning agencies don't get too involved. Transportation plans such as the MTP include some high level information (typically from the NEPAassist tool

provided by the EPA) and some mitigation strategies, but in general the MPO does not get involved in the NEPA review. Any corridor studies done in the planning process contain more information, but corridor studies aren't done for all projects and even the corridor studies only provide a broad level environmental analysis and identify fatal flaws.

- Many MPO's and districts are limited by their size. For example, the Tyler Longview MPO has only three full time staffers. This makes it difficult to do more than the basic tasks and many initiatives to link the NEPA and planning processes would not be practical for them. Furthermore, these regions don't have many (if any) EIS level projects that would benefit the most from any linkage initiatives. On the other hand, NCTCOG has many more staffers, is involved with numerous large projects, and is more involved in the project development process than any other MPO interviewed in Texas.
- Almost every agency and department seems to be understaffed and underfunded. This particularly applies to the resource agencies who don't have the staff to review all of the environmental documents they receive in a timely manner. Examples were given of the state funding federal positions in resource agencies to expedite the review process.
- A universal complaint with the NEPA process was the federal requirements regarding projects be fully funded and accurately identified in transportation plans. These requirements greatly reduce flexibility and unnecessarily increase workloads. An example given by several interviewees describes a situation where a 10 lane highway is needed in a certain region. Due to funding concerns

however, only 6 lanes of the highway can currently be built and the other 4 are planned for later. It would be ideal if TxDOT and the MPO could identify the 10 lane highway in their transportation plans and provide one NEPA document for the entire highway. Instead, they have to identify the 6 lane highway and 4 lane addition as separate projects with separate funding and separate NEPA documents.

- Communication and coordination between stakeholders generally was considered good. All of the MPO's and districts interviewed felt they had good relationships with each other. The relationships with TxDOT division headquarters or resource agencies were also generally considered good, although there were some complaints. These complaints were mostly related to resource agencies being understaffed and not wanting to be too involved in the planning process because it didn't specifically fall under their purview. Communication and coordination with stakeholders was widely considered a best practice and despite the positive remarks from many agencies, there was still mention of room for improvement.
- The review process required by FHWA is perceived as subjective, which sometimes makes it difficult to know what exactly is required. Standards for NEPA documents, to a certain extent, depend on the different reviewers at FHWA which can lead to variation in what is expected in the NEPA documents. Attempting to add more objectivity to the FHWA review process would likely be beneficial.

These recurrent themes and recommendations were identified in essentially every interview. Other issues mentioned less frequently include:

- Concerns over attempting to put too much detail into transportation plans possibly straining limited resources. Identifying high level environmental concerns, potential fatal flaws, and early mitigation strategies is fine but it might be too much to ask for more from MPO's and other planning agencies.
- TxDOT's frequent use of consultants may not be the most efficient method of performing environmental reviews.
- The NEPAssist tool provided by EPA is useful when including information in transportation plans, but it could be improved by allowing users to access and update the GIS layers.
- Experienced NEPA document preparers in planning could allow for the documents to be drafted in such a way that they can be better used in the NEPA process.
- Walking potential project sites with resource agency representatives can potentially improve early coordination and communication. In general, if resource agencies see attention to environmental concerns they will be receptive to working with the project sponsor.

As might be expected, the best and most innovative practices are generally found in large metropolitan areas with more resources such as Dallas and Houston. The Dallas MPO in particular does a great deal of work in the project development process and includes

environmental analysis and studies in their transportation plans. The Houston MPO is starting to move towards this direction and is trying to include more alternatives and environmental analysis in their long range plans

Chapter 7: Resource

INTRODUCTION

From the recommendations gleaned from the previous tasks, a resource titled “The TxDOT Resource for Linking Planning with Project Planning in Support of NEPA” was developed. The resource is designed to aid the various Texas agencies involved in regional planning, project planning, and NEPA compliance by making recommendations and identifying areas where these agencies can facilitate the NEPA process by linking it with regional and project planning. The Resource is designed to act as a stand alone document and is purposely short and succinct to make it easy for practitioners to use.

The Resource is broken into eight chapters as follows:

1. Introduction
2. Background Information
3. Guidance on Linking Planning and NEPA
4. Implementation Tools
5. Communication Strategies
6. Other Considerations
7. Current TxDOT Practices and Implementation Considerations
8. Conclusions

The first chapter, Introduction, is a standard introduction and discusses the purpose and structure of the Resource. The second chapter, Background Information, discusses the NEPA and transportation planning processes so that the reader has a basic understanding of each. The third chapter begins to talk about recommendations and its principle

component is a table that suggests information to be put into transportation plans and carried forward into NEPA documents. The fourth chapter, Implementation Tools, discusses several tools that can be used to link planning and NEPA including GIS based data sharing tools, screening forms/reports, and a customized version of the PEL Questionnaire developed by FHWA. The fifth chapter, Communication Strategies, recommends ways to improve early stakeholder coordination and communication between environmental and planning staffers. The sixth chapter, Other Considerations, includes information on miscellaneous recommendations that did not fit in other chapters and some discussion on the recently passed MAP-21 bill. The seventh chapter, Current TxDOT Practices and Implementation Considerations, delves into the climate in Texas any new initiative would be introduced in and comments on challenges a new initiative may face. The final chapter is a standard conclusion and summarizes the Resource.

WORKSHOPS

The Resource was validated through a series of workshops held at various TxDOT districts around the state. The purpose of these workshops was to garner feedback on the various recommendations in the Resource, particularly with regard to the practicality and feasibility of the recommendations. The workshops were held in Houston, Austin, and Pharr and included an interactive feedback component that allowed the research team to quantitatively assess the opinions of the attendees.

The questions asked during the interactive feedback component were split into two parts. The first group of questions are centered on the recommendations made in Chapter Three

of the Resource, specifically the table representing guidance on what planning agencies should include in their long range plans to streamline the NEPA process. The table breaks the NEPA process into its various components as described in TxDOT's Environmental Manual and divides the long range planning process into three different levels (TxDOT Statewide Long Range Transportation Plan or SLRTP, RPO/TxDOT district rural long range planning or RTP's, and MPO urban long range planning or MTP's). Each NEPA component in the table is assigned a rating from 0 to 3 for each level of long range planning. This rating indicates the amount of information an agency should include in their long range plan that is relevant to the specific NEPA component. Each question from the first part of the interactive component of the workshop is associated with each of the assigned ratings. For example, the first question addresses how much information should be included in the Statewide Long Range Plan (the level of long range planning) regarding the overall need (the NEPA component) for a corridor. A draft version of this table is provided in Appendix F. To stay within workshop time constraints, the MTP and RTP levels of long range planning are combined in the questions. The second group of questions focuses on general recommendations from Chapters Four, Five, and Six of the Resource, recommendations that have been discussed at various points throughout this report. A full list of the questions and results from each district can be viewed in Appendix G and Appendix H respectively.

Workshop Results

Guidance on Linking Planning and NEPA: Purpose and Need

The first eight questions focus on information that can be carried forward from long range plans into the purpose and need section of a NEPA document. The results, shown below in Tables 6 and 7, indicate that at least some information in statewide long range plans should be carried forward into purpose and need sections of NEPA documents while MTP's and RTP's should include a significant amount of information about most aspects relating to the purpose and need statement for a project. In particular, a significant amount of information should be placed in MTP's and RTP's describing the overall need for a project, how the project would fit into the overall transportation system, how the project deals with current and future capacity and demand issues, the project's economic, social, and land use effects, and how the project serves various modes of transportation. From the participants' comments, it appeared that these issues should almost always be discussed in detail in the MTP and RTP while the other questions that scored a median value of 2 in Table 7 should only be discussed in detail if they happen to be driving factors behind a project. As Table 6 shows, the Statewide Long Range Plan should not have as much information as an MTP or RTP. Many participants felt this is because the SLRTP should only discuss the principle driving purpose and need factors behind proposed corridors and putting a lot of information into the SLRTP is not practical due to its generic nature and long planning horizon.

Table 7: Workshop Results: Purpose and Need STLRP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1A – Overall need for project	5	7	11	6	0	1.6	2
2A – Mandated by law?	1	6	16	6	0	1.9	2
3A—Fit into transportation system	1	7	16	6	0	1.9	2
4A—Capacity and demand	0	8	16	5	0	1.9	2
5A—Economic, social, and land use effects	3	9	14	4	0	1.6	2
6A—Multi- modal service	0	3	22	5	0	2.1	2
7A—Safety issues	0	9	15	6	0	1.9	2
8A—Alternative conditions	5	7	16	2	0	1.5	2

Table 8: Workshop Results: Purpose and Need MTP/RTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1B—Overall need for project	0	3	11	15	0	2.4	3
2B—Mandated by law?	1	2	14	13	0	2.3	2
3B—Fit into transportation system	0	2	12	15	0	2.4	3
4B—Capacity and demand	0	1	11	17	0	2.6	3
5B—Economic, social, and land use effects	1	3	12	13	0	2.3	3
6B—Multi- modal service	0	1	11	17	0	2.6	3
7B—Safety issues	0	1	16	12	0	2.4	2
8B— Alternative conditions	0	4	16	10	0	2.2	2

Guidance on Linking Planning and NEPA: Alternatives Analysis

The results from the questions relating to the alternatives analysis section of a NEPA document generally indicate that the SLRTP is not an appropriate document to include a lot of information regarding alternatives analysis, but that at the MTP/RTP level it is appropriate to start including more information. The recommendation that received the most support was the question regarding the use of maps and visual aids and from the comments it was apparent that maps and visual aids are helpful for environmental staffers when performing NEPA reviews. There was also some support for doing some preliminary alternatives analysis such as early fatal flaw analysis or basic alternative descriptions in the MTP/RTP's, but such work is too detailed for the SLRTP as can be seen in the results for questions 9 and 11. The results for questions 12 and 13 show the participants felt that right of way discussions and work on detailed design were too preliminary for all levels of long range planning. An additional comment to note was that some MPO's, especially the smaller MPO's, may not have the necessary resources to feel comfortable performing much of an alternative analysis at this stage.

Table 9: Workshop Results: Alternatives Analysis SLRTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
9A—How and why alternatives were chosen	6	12	10	1	0	1.2	1
10A—Use of maps/visual aids	3	10	11	4	0	1.6	2
11A— Describing alternatives	4	11	10	4	0	1.5	1
12A—Right-of- way status	11	15	3	0	0	0.7	1
13A—Detailed design development	15	10	5	0	0	0.7	0

Table 10: Workshop Results: Alternatives Analysis MTP/RTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
9B—How and why alternatives were chosen	2	5	13	9	0	2.0	2
10B—Use of maps/visual aids	1	2	11	15	0	2.4	3
11B—Describing alternatives	0	4	12	12	0	2.3	2
12B—Right-of-way status	1	16	10	2	0	1.4	1
13B—Detailed design development	6	14	8	2	0	1.2	1

Guidance on Linking Planning and NEPA: Affected Environment

The questions regarding the affected environment component of NEPA reviews mostly deal with the level of detail of data that should be included in long range plans. Once again, the trend was that the SLRTP is too generic of a document to include much information, but at the MTP/RTP level some information should be included when possible. A concern that was brought up regarding including information about the

affected environment was the length of time of long range plans. Discussing the existing environment for a project twenty years in the future isn't very practical because affected environment is very likely to change in the interceding years. Participants from the Pharr district suggested providing different levels of detail for projects depending on when they are anticipated to be implemented. Projects to be implemented within the next five years for example, would have more information included in long range plans than projects scheduled to be implemented twenty years in the future.

Table 11: Workshop Results: Affected Environment SLRTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
14A—General population information	10	8	9	2	0	1.1	0
15A—Sensitive locations	4	8	15	1	0	1.5	2
16A—Other activities that may impact	3	12	13	0	0	1.4	2

Table 12: Workshop Results: Affected Environment MTP/RTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
14B—General population information	1	7	12	9	0	2.0	2
15B—Sensitive locations	0	1	17	11	0	2.3	2
16B—Other activities that may impact	0	3	23	3	0	2.0	2

Guidance on Linking Planning and NEPA: Environmental Consequences

The results for the questions relating to the environmental consequences section of a NEPA document generally suggest that trying to determine impacts and mitigation measures in long range planning is too difficult. As one participant noted, to discuss impacts in a meaningful way requires accurately assessing purpose and need, alternatives analysis, and the affected environment in a long range plan, something which is not easy to do. Some broad range impacts and mitigation measures can be discussed (the difference in scores between questions 17 and 18 suggest the participants were more open to general impacts and mitigation measures than specific impacts and mitigation measures) but in general environmental consequences are hard to assess at this stage, particularly in the SLRTP. Mitigation in particular would be difficult because, as one

participant noted, it would require working with resource agencies at a very early stage when the resource agencies are unlikely to want to invest resources in determining mitigation strategies.

Table 13: Workshop Results: Environmental Consequences SLRTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
17A— Consequences for all alternatives	9	10	8	1	0	1.0	1
18A— Consequences for each alternative	14	13	2	0	0	0.6	0

Table 14: Workshop Results: Environmental Consequences MTP/RTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
17B— Consequences for all alternatives	2	12	11	3	0	1.5	1
18B— Consequences for each alternative	5	14	8	1	0	1.2	1

Guidance on Linking Planning and NEPA: Public Involvement and Coordination

The general theme of the comments regarding the questions relating to public involvement and coordination was that if the comments are available and relevant they should be included and addressed. The problem is that comments relating to specific projects or corridors generally occur during the specific public involvement periods for those corridors or projects. Coordination with government agencies and other groups is more realistic, particularly at the MTP and RTP level, but again the participants felt long range planning it too early to get much public involvement or coordination. The values in Tables 14 and 15 reflect the belief that public involvement and coordination, if there is some, should be documented appropriately, but there is not likely to be relevant public involvement at this stage.

Table 15: Workshop Results: Public Involvement and Coordination SLRTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
19A—Early scoping efforts	6	12	9	1	0	1.2	1
20A— Correspondence and meetings with groups	8	11	9	1	0	1.1	1
21A— Comments received	8	8	8	4	0	1.3	0

Table 16: Workshop Results: Public Involvement and Coordination MTP/RTP

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
19B—Early scoping efforts	2	15	11	1	0	1.4	1
20B—Correspondence and meetings with groups	4	7	12	5	0	1.6	2
21B—Comments received	3	14	3	7	0	1.5	1

General Recommendations

The high scores in the general recommendation section suggest that these recommendations would be well received by individuals in the planning and environmental communities around Texas. GIS based data sharing tools were particularly popular as can be seen from the results for question 22. There was also strong support for the belief that upper level management support is necessary for a successful linkage initiative, the concept behind collaboration points, and encouraging cross training between environmental and planning staff. The feasibility outlook for all of these options was less optimistic with several participants noting the lack of resources available for such initiatives. The participants were less enthusiastic about screening

forms/reports due to the perceived extra paperwork and bureaucracy (question 24). Housing environmental and planning staff in the same building was also not as popular as other recommendations because some participants felt the actual physical locations are not very significant and cited examples of district offices where environmental and planning staff do share the same building but don't communicate well (question 29). Finally, the use of formal agreements was not always well received because they are often ignored or forgotten after a period of time (question 30).

Table 17: Workshop Results: General Recommendations

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
22—GIS data sharing tool	0	0	3	10	15	3.4	4
23—Feasibility of GIS data sharing tool	2	5	3	16	3	2.4	3
24—Screening form/report	4	2	8	12	3	2.3	3
25—Feasibility of screening form/report	0	3	4	10	4	2.7	3
26—Collaboration	0	0	6	13	9	3.1	3

Table 17 (continued)

points							
27—Feasibility of collaboration points	0	2	6	15	5	2.8	3
28—Cross training staff	0	2	1	17	8	3.1	3
29—Physically combine offices	1	4	7	10	5	2.5	3
30—Formal agreements	0	5	12	9	2	2.3	2
31—Upper level support	0	2	1	11	14	3.3	4

Workshop Conclusions

The workshops provided excellent affirmation for the Guidance on Linking Planning and NEPA table developed for the Resource as the workshop results correlated very well with the expected values. Additionally, the comments received will be incorporated into the table and will provide context and examples for agencies attempting to use the table. The workshops also provided excellent feedback on the other recommendations included in the guidebook and have provided insight into which of these recommendations are viewed more favorably (GIS data sharing tools and upper level management support) and compared to others (formal agreements and screening forms). The comments received regarding these recommendations will also be incorporated into the Resource, particularly the comments regarding implementation concerns the workshop participants had.

Chapter 8: Conclusions and Recommendations

CONCLUSIONS

The increasing complexity and costs associated with completing NEPA documents has necessitated streamlining the NEPA process whenever possible. One potential avenue for streamlining involves linking the NEPA process with the transportation planning process. The purpose behind this would be to reduce costs and time delays caused primarily by duplicative efforts between the two processes, lack of coordination and communication between the two processes, and lack of early stakeholder involvement.

To this end, the research team has developed a series of recommendations designed to link the NEPA process with regional and project planning. These recommendations were developed after an extensive literature and legal review and numerous state of practice interviews conducted with individuals from around the country. Fully implementing all of the listed recommendations can be challenging due to time and resource constraints. Agencies involved with transportation planning will have to make decisions regarding which recommendations are the most feasible to implement and the degree to which they will be implemented. Implementing these recommendations will require initial costs in the form of time, money, and staffing resources, but in the long run they should streamline the project delivery process and provide efficiency savings that will recover the upfront investment.

RECOMMENDATIONS

From the results of the literature review, interviews within Texas, interviews of various other states, and interviews of various resource agencies a series of recommendations designed to link regional and project planning with NEPA were drafted. These recommendations represent the best practices from around the country that support linking regional and project planning with the NEPA process

Recommendations from Literature Review

1. Introduce concurrence/decision points in the transportation planning and project development processes to encourage early stakeholder involvement

Early and continued resource agency involvement in the transportation planning and project development processes is important to the success of a project, particularly for a complicated or contentious project. One method to achieve this involvement is the concurrence/decision point technique, which involves setting various points along the project delivery schedule and requiring all relevant resource and regulatory agencies to concur with the progress of the project. The intent is to prevent situations in which decisions are made on a project and work is completed, only to find that a resource or regulatory agency will not approve the decisions, rendering much of the work wasted. At each concurrence point, resource and regulatory agencies agree to not challenge previous decisions unless some aspect of the project has changed. Typically, these concurrence points are used at various stages in the NEPA process (ie after drafting the purpose and need section, selecting potential alternatives, selection of the preferred alternative,

drafting of the environmental consequences section, etc.) however they can be used earlier to facilitate better resource and regulatory agency involvement in regional and project planning

2. Cross train planners and environmental staffers

Cross train planning and environmental staff in their opposing discipline. This will provide several benefits:

- A better understanding of how the opposing process works including the data and information used in the process
- A better understanding of the terminology used in either process.
- Easier communication between environmental and planning offices as a result of better understanding the goals and processes involved in either job

The training can be as extensive as necessary. In many cases, workshops on a monthly basis are all that's necessary to provide the appropriate level of expertise. Even an annual workshop designed to cross train staffers would provide benefits

3. Adopt more corridor or sub-area studies

Corridor and sub-area provide several benefits:

- Increased efficiencies with the overall process due to reduced duplication of work and early stakeholder involvement.

- Greater flexibility for projects since a wider range of alternatives can be considered in a corridor study as opposed to an EIS or EA for a single project.
- Relationship building between all potential stakeholders, reducing opposition during the environmental review process.
- Coordination of resources amongst agencies with limited budgets.
- Early and consistent involvement of the public.
- Prioritization of investments as a result of earlier consideration of environmental issues.

4. Identify opportunities for linking statewide and regional planning to the NEPA process.

Consider environmental, social, and economic goals early in the transportation and project planning stages. Identify links between transportation planning elements and environmental elements. Provide guidance on how to develop a planning environmental linkage study.

5. Develop step-by-step handbooks or manuals that outline the how the processes can be linked

Handbooks and manuals provide a good outline for how to accomplish complicated processes. If the environmental review and planning processes are to be linked, there

should information in the manuals about the other process. To this end, it is recommended TxDOT put a more detailed environmental section in the Planning Manual and a more detailed planning section in the Environmental Manual. These sections should discuss specific information required for the other process and how that information needs to be documented.

Another alternative would be to develop a separate manual specifically about linking regional and project planning with NEPA. This manual would reference existing the Environmental and Planning Manuals and would discuss exactly when linkages should occur and which agencies would be responsible for the linkages.

Recommendations from Out-of-State/Resource Agency Interviews

1. Utilize GIS based data sharing tools

Data sharing tools represent the greatest cost and potentially the greatest return on investment of all tools that link NEPA with transportation planning. Most data sharing tools identified in the research use Geographical Information System (GIS) and can be accessed on the internet or downloaded with the appropriate software. The GIS layers are typically compiled from all participating agencies and contain information on a wide variety of subjects including environmental concerns, traffic congestion data, and safety statistics, among others. Two important features any successful data sharing tool must have are conformity and acceptance from all relevant parties. When all stakeholders use the tool and accept the accuracy and completeness of the data in the tool, the full benefits of the data sharing tool become evident. These benefits include time savings from

reduced duplicative data gathering, improved communication between parties because everyone has access to the same information, and early identification of potential environmental concerns.

More advanced data sharing tools have the capability to automatically generate environmental reports for projects. These reports include all relevant environmental concerns identified from the GIS layers and are generally useful as scoping tools for a more thorough NEPA review. If the reports are sufficiently detailed, FHWA may accept them as justification for a CE, further saving time and money.

2. Utilize screening forms/project report forms

Screening forms are useful tools that can help succinctly summarize the areas of concern for a project and can be used to vet potential projects. How and when a screening form should be used varies at the discretion of the specific implementing agencies. In some cases, multiple screening forms may be used throughout the project development process to ensure the appropriate information is being carried forward. One of the more effective forms of screening forms is a project report form that theoretically is filled out once the project leaves the planning arena. This report would include information on the basic description of the project including its location, termini, connections to the existing system, the purpose and need for the project, any potential environmental issues discovered during planning, and the information on the various alternatives considered during the planning phase.

3. Provide strong upper management support for any linkage program

Implementing an initiative without strong upper management support is very difficult. It is very unlikely any initiative will be universally accepted and implemented with gusto by everybody and upper management support will be needed to prevent people from dragging their feet. The higher level the support comes from, the better. Ideally and initiative would be strongly support by division chiefs, department heads, or even TxDOT's top leadership. A program champion from this upper echelon of TxDOT personnel whose task is to see through the successful implementation of any initiative is the best way to ensure compliance because then the upper level support has a face and a specific person behind it and isn't just superficial.

4. Improve communication and coordination amongst all stakeholders

Integrating the NEPA process with regional and planning processes by necessity involves facilitating communication and coordination between staff involved with the different processes. There are several effective ways to achieve this:

Place staffers from an environmental office in a planning office and vice-versa. The person in the planning office with an environmental background can provide input the type and quality of information that can be used in environmental documents and the planning staffer in the environmental office can provide insight as to what may have been left out of the plans and how the planning process works. Furthermore these individuals likely have contacts and relationships in their previous sections, which will improve communication between the two groups.

Physically combine the planning and environmental offices and place them under the same supervisor(s). Physically placing the environmental and planning staff in the same building can provide positive results. Informal relationships formed by working in close proximity to each other can greatly improve communication. Putting the same person(s) in charge of the planning and environmental sections will also help communication as it will be easier for the supervisor(s) to encourage this communication and the supervisor(s) will have a better understanding of the concerns and needs of both sections.

Communication and coordination between stakeholders can also be accomplished using formalized agreements such as Memorandums of Understanding between the parties or through formalized handbooks/manuals that detail how often these agencies should be contacted. Formalized procedures such as MOU's or handbooks can be effective at stimulating communication and coordination, but in order to be truly effective the formalized procedures should support relationships between the stakeholders. For example, a formalized procedure requiring the project sponsor to walk the proposed project site with representatives from various resource and regulatory agencies is more effective than a procedure requiring the project sponsor to email a description of the project site to the appropriate agencies.

Recommendations from In-State Interviews

1. Linkage program should be adapted to different organization sizes and characteristics. Many MPO's and districts are limited by their size. For example, the Tyler Longview MPO has only 3 full time staffers. This makes it difficult to do more than the basic tasks

and many initiatives to link the NEPA and planning processes would not be practical for them. Furthermore, these regions don't have many (if any) EIS level projects that would benefit the most from any linkage initiatives. Any initiative linking regional and project planning with NEPA should keep the limited resources of smaller MPO's and other agencies in mind.

2. Any linkage program should not be a simple shift of tasks from environmental sections to planning sections without changing funding.

Many of the methods discussed to link regional and project planning with NEPA involve including more environmental information in planning documents. This places a greater burden on planning agencies and should be accompanied with appropriate levels of extra funding.

3. The NEPAAssist tool provided by EPA is a good start, but it needs to be improved.

The NEPAAssist tool is useful for including broad level information in transportation plans, but the user agencies can only view the information they don't have direct access to it. This means they can't directly supplement the GIS layers viewed through NEPAAssist with their own GIS data or data from other agencies. NEPAAssist has the potential to be a very effective data sharing tool if it were improved.

NEXT STEPS

The recommendations developed by this research are by no means the pinnacle of potential advancement in this field. Future research opportunities include:

- Further identifying the appropriate level of detail transportation plans should include when discussing NEPA related issues.
- How to develop a GIS based data sharing tool, what information should be included in such a tool, and how the tool should be managed and maintained.
- Developing a program or system for integrating planning and environmental staff, whether it be through training, by placing already trained individuals in certain departments, or by some other method.
- How to automate the transition between the planning and NEPA processes. For example, automatically generated reports acting as stand alone CE's with FHWA's permission.

Appendix A: Out of State Interview Questions

Question 1: Do you currently have any processes/practices/procedures in place to integrate planning and NEPA?

- If yes, has your state developed any legislation for this (in addition to the federal requirement)?
- If yes, did this include any further requirements beyond the federal requirements?
- If yes, how far along are you in developing this process? What are the implementation barriers and/or success factors?
- If no, do you have a plan/strategy/timeline to develop this process?
- If no, has anyone vocalized opposition to developing new practices/processes/procedures for integrating planning and NEPA?

Question 2: Have you incorporated the requirement for linking planning with project planning in support of NEPA into your program/planning manuals?

- If yes, which divisions? Environmental/Planning/Other?
- If yes, would you be willing to share these program/planning manuals with the research team?

Question 3: What resources were required to implement your program?

- For example, were training and guidance provided to those responsible for conducting and reviewing planning, project planning, and NEPA documents?
- Is this a continuing process?

Question 4: Does your agency have any guidelines/handbooks to indicate how exactly transportation plans and NEPA should be linked?

- If yes, what data/information (and level of detail) does your agency require to be included in planning studies in support of NEPA documentation (i.e., what is the guidance provided)?
- Has your agency developed a step-by-step process/checklist to insure that its staff integrate the NEPA process and planning process?
- Is this focused on specific areas/elements/modes?
- Who developed this process?

Question 5: Does your process bring together transportation planners and NEPA coordinators?

- If yes, how often?

Question 6: Who is responsible for ensuring that the long range transportation plans contain information the NEPA process requires?

- Do you have a designated person? Is having a designated person helpful?

Question 7: Have you met with other state/federal agencies to develop MOUs and other inter-agency agreements to formalize your process? Please specify which agency and division.

Question 8: Have you met with your MPOs/other local jurisdictions to discuss your process?

- If yes, what type of local jurisdiction (county, municipality) and how many? (Larger cities, all cities?)
- If yes, what is the role of the person(s) you met with? (Planning staff, city manager, local politicians?)
- If yes, how often do you meet with them to develop process/procedures/documents/ interagency agreements under the PEL rubric?
- If no, does your agency intend to meet with them?

Question 9: Is there any data that you take from MPO transportation plans and use in NEPA compliance documents?

- Does the state specify in any way or in detail how this is to be achieved?
- What type of data are required?
- What type of data do you use?
- Could these data be utilized in NEPA analysis of specific projects that are moved from the LRP to the TIP and will then require formal NEPA analysis?
- Are you assessing and analyzing these data with this in mind?
- If you were to use data developed in the MPO long range plan for NEPA analysis, what would be the shelf-life for which you would allow this data to be utilized?

Question 10: In general, would you say the PEL program has been successful?

- Why or why not?
- What changes would you make?

Question 11: Would you say that your implemented policies, practices, or procedures have been effective?

- Are there any specific elements that are working well? Has it led to any efficiencies for your agency?
- Were there any major hurdles to setting-up/implementing your process?
- Do you think it may reduce litigation around NEPA?

Question 12: Can you provide a few examples of where planning and NEPA has been successfully linked in your state? Can you provide a few examples that were less successful?

Question 13: Can you provide the contact information at MPOs and toll authorities that have implemented policies/practices or procedures to link transportation planning and NEPA in your state?

Appendix B: Resource Agency Interview Questions

Question 1: Does your agency currently have initiatives or practices to link NEPA with the planning process and to streamline the overall environmental review process? If not, are there activities or plans to do so? Please describe or explain.

Question 2: How frequently do project sponsors contact your agency about proposed projects and potential environmental issues they anticipate encountering, prior to the environmental documentation and review process?

Question 3: When project sponsors do contact your agency, prior to submitting the draft document, what types of guidance or resources does your agency offer them (e.g. documents, training, meetings, etc.)?

Question 4: One concern a project sponsor might have with contacting a resource agency, prior to submitting the draft document, is that they will be highlighting issues and inviting a higher level of scrutiny for their project than it might otherwise receive. In your opinion, is this concern legitimate on the project sponsor's part? If yes, do you have any suggestions for how your agency could address or alleviate those concerns?

Question 5: Does your agency have concerns about project sponsors who choose to link planning with NEPA complicating rather than streamlining the environmental review process? Please describe these concerns and, without identifying particular participants, any circumstances when this has occurred.

Question 6: Could you please give a brief overview of the process of how your agency receives and reviews environmental documents? Are there opportunities to improve the submission and review process of reports?

Question 7: What is the typical range of time, within your agency, between the receipt and the final decision for an environmental compliance document by type (i.e. categorical exclusion, environmental assessment, and environmental impact statement)?

Question 8: Which types of issues/problems, relevant to your agency's oversight, do you see when reviewing environmental compliance documents? For these issues, do you believe that linking the planning and NEPA processes would prevent these issues/problems from occurring? Please explain.

Question 9: What are the most frequent procedural issues you confront when reviewing environmental documents under NEPA? For these issues, do you believe linking the planning and NEPA process would streamline or further complicate the environmental compliance process?

Appendix C: Out of State Individual Interview Summaries

Pennsylvania DOT

Planning Division

The Pennsylvania Department of Transportation has begun integrating the transportation planning process and the NEPA process through a smart transportation initiative.

Through this initiative, PDOT released a smart transportation guidebook in March 2008 and has begun integrating the principles in the guidebook into their design manuals. The design manuals describe the 7 step process of how a project is formulated all the way through design and construction. The 7 steps outlined in the design manual are problem assessment, problem identification in the long range plan, proposal initiation, proposal definition, project identification in the TIP or STIP, preliminary engineering and a NEPA decision, and finally the final design and construction. The design manuals have been released, but PennDOT is still in the process of implementing them.

Per the SAFETEA-LU requirements, the principle message in the smart transportation guidebook and design manuals is a spirit of collaboration amongst all invested parties. Agencies are required to coordinate and share information early on in the project development process. Each individual MPO/RPO in Pennsylvania was invited to workshops to determine how best to integrate NEPA and planning in the manuals and guidebook. The FHWA and various other resource agencies were also invited to these workshops to provide their input. Involving multiple agencies in the guidebook and manual formulation process ensured these agencies would accept the requirements in the manuals and follow them with more vigor. The interviewee felt this point was

particularly important and that any change to integrate NEPA and planning should be done with considerable input from multiple agencies, if only to make sure all the agencies will cooperate when the changes are made.

Perhaps the most important tools used in the new design process are the three different types of screening forms used to scope and vet projects. A project has to be screened to pass through the first 4 steps of the project development process. Level one screening deals with assessing the problem and identifying proposals, level two screening involves overall planning analysis, and level three screening is a detailed vetting analysis of a project. The screening process is not meant to do the work of a NEPA document or to fully design the project; it is intended to determine which projects should be carried forward and what the scope of these projects should be. The screening process is automated and incorporates GIS data (layers on endangered species, wetlands, environmental resources, etc) and asset information (roadway information, bridge information, etc). Thus when a planner puts in the location of a proposed project, the system automatically includes relevant environmental and transportation related data. The interviewee was unsure of the resources required to implement this program.

Automating the screening forms cost approximately 1 million dollars and PennDOT is in the process of adding other components to the screening forms that will cost an extra 500,000 dollars (the main component being added is linking the screening forms to the Categorical Exclusion system they have in place to reduce the time for basic CE projects). Furthermore, PennDOT has dedicated staff in planning and highway administration working on the design manuals and the smart transportation initiative. A consultant was hired to develop the framework of the 7 step process, but the interviewee

doesn't know the cost of this and most of the details of the process were developed in-house.

Overall the feedback on the smart transportation initiative was very positive. The program received very little pushback—the people who didn't fully support it, such as people from planning regions that declined to participate in drafting the guidelines, generally were neutral and took a wait and see approach. The entire state is using the system now (the screening forms being a requirement for getting projects on the TIP/STIP has greatly sped up implementation) and the feedback has generally been positive. Feedback from FHWA has also been positive, and the smart transportation program is a part of FHWA's Everyday Counts initiative. On a final note, the interviewee felt that having the support of upper level management (the Secretary of Transportation was particularly supportive) was very helpful in ensuring widespread implementation.

Washington DOT

Environmental and Planning Divisions

Washington was one of the first states to begin linking planning and NEPA, starting with the Reinventing NEPA program. The program is now defunct and only a few aspects of the program are continued. The most important things that came out of the Reinventing NEPA program were the liaisons and relationships developed between agencies. The interagency coordination required in the Reinventing NEPA program worked so well that it was written into the Environmental Procedures Manual used by WDOT. The manual

details which agencies should be contacted during different stages of a project. The interagency liaisons established in the Reinventing NEPA program were project specific focused generally on permit approvals. As a result, WDOT invested in a multi-agency permitting team (MAPT) that has greatly increased the efficiency of projects. Basically the team brings together a person/people from the various permitting agencies in one building so that project managers don't have to go to many different places to get permits.

WDOT has passed the Growth Management Act which passes transportation planning authority to a local level. Thus the MPO's in Washington are very independent and WDOT doesn't play as large a role in transportation planning. The interviewees feel this makes it difficult to coordinate projects because there is less uniformity in planning throughout the state. WDOT lets the MPO's do almost all of the planning, CEPA compliance, public outreach, etc.

North Carolina DOT

Environmental

North Carolina has been a model DOT when it comes to integrating planning and NEPA as they have implemented several initiatives to streamline the two processes. The most far reaching of these initiatives is called Integration and was started in 2005. Under integration, a multi-agency team identified 8 linkages between the planning process and NEPA process. The goal is identify how exactly each linkage can be exploited to

streamline the project delivery process using information from the planning process. Of the 8 linkages, one has been implemented in procedures manuals and guidebooks (linking a problem statement in planning to purpose and need in NEPA), five of them will be implemented towards the end of 2012 (alternatives analysis to alternatives selected for detailed study, unreasonable solutions to alternatives selected for detailed study, multi-modal analysis to multi-modal alternatives, and community impact assessment to community impact analysis), and the last two are still in the early stages (land use to indirect and cumulative effects and public involvement to public involvement). The first linkage connecting the problem statement to the purpose and need to about a year to develop and another year and a half to implement correctly and get the kinks worked out. Under the procedures for the first linkage a problem statement can be developed in one of two ways: 1) a NEPA practitioner can request it or 2) the transportation plan can already include a problem statement. The first option tends to work better because there's less delay between when the problem statement is drafted and the start of the project. From this problem statement, the NEPA practitioner can draft the purpose and need statement. The most challenging aspect of the Integration program has been taking the linkages from broad, high-level, theoretical ideas to descriptive, step-by-step processes. Working out the details and the documentation requirements required one dedicated staffer with three to four other staffers providing assistance

North Carolina has several other programs designed to integrate the planning process with the NEPA process. One of these programs involves direct coordination between transportation planners and NEPA coordinators. The program is jointly run by FHWA

and NCDOT and involves designated meetings between transportation planners and NEPA practitioners in which the planners directly hand over relevant information to the NEPA practitioners. Once the project is initiated, there is even more coordination between NEPA practitioners and transportation planners. This program has been so successful that NCDOT is looking at putting a project development group in the long range planning process to aid in the transfer of information. NCDOT begun another similar program (titled Merger) that is designed to incorporate resource/permitting agencies more efficiently into the NEPA process. Merger is very similar to programs undertaken in other states as it involves the use of concurrence and decision points. At each concurrence or decision point, resource/permitting agencies have to sign off on the progress of the project and the decisions made by the project team. Once the agency signs off at a concurrence point, it cannot change its position unless the project changed in some way. This reduces duplicated work and forces resource agencies to be involved throughout the project. Ultimately NCDOT would like to have resource agencies directly involved in long range planning is trying to put a team together to figure out which people in which agencies should be involved, but this is still in the future.

In concluding, the interviewees noted that probably the two most important factors involved in linking planning and NEPA are getting everyone involved early in the process and providing better documentation. Getting stakeholders involved early in the process greatly reduces the chances of an agency or person raising complaints at a later date and stalling the process. Better documentation in planning allows NEPA

practitioners to see clearly the thought process behind planning decisions and makes it much easier to use planning decisions/data in the NEPA documents.

Maine DOT

Planning Division

The state of Maine has been in the process of integrating the transportation planning process and the NEPA process for about 20 years, far longer than any other state interviewed. Maine DOT called the program Integrated Transportation Decision Making (ITD) and the purpose of the program was to link numerous areas in transportation decision making together. This included NEPA and transportation planning, but also included areas such as permitting, environmental policy, letting contracts, etc. As a result of the program being so old, there really isn't a section or sections in guidebooks or manuals specifically regarding the program; everything about the program is simply taken as normal everyday practice.

The ITD program was initiated in the DOT's environmental office and resulted in restructuring that put environmental staffers in the planning office and set up an environmental coordination unit. Maine went so far as to put the environmental and planning departments in the same building to facilitate communication. Staff follow a ten step environmental framework that guides the process from planning all the way through construction. Each step states which agencies are responsible for what and how

coordination between agencies should be conducted. The framework establishes a steering committee (kind of like an executive committee to lead the project) which then establishes a stakeholder committee to make sure all important agencies/stakeholders are kept abreast of the project. Another streamlining effect initiated by the ten step process is the reduction of duplicated work as the process takes into account different environmental laws (NEPA, Maines environmental law STPA, USACOE Highway Methodology, etc.) to ensure everything gets done one time. On a broader scale, Maine DOT holds monthly meetings for state and federal resource agencies to improve coordination.

Overall MDOT feels ITD has been successful. It has greatly helped increase communication and coordination between agencies and the ten step process has organized/defined everyone's roles and reduced duplication of work.

Utah DOT

Planning and Environmental Divisions

Utah's linking planning with NEPA program is called UPlan and focuses primarily on data sharing and automation. UPlan combines numerous different types of data (environmental, infrastructure, demographics, etc) into one easy to access and use tool. The goal is to provide everyone involved in a project easy access to the same data so that everyone is on the same page. The data has always been available to planners and NEPA

practitioners, but UPlan brought it together in a web based system that drastically saved time and effort.

A unique feature of the UPlan system is the automatic PEL reports the system generates. A user simply inputs some project parameters (ie project location, type of project, etc.) and the system provides a PEL report listing the various environmental concerns. The PEL reports lists all of the impacts of a project, quantified by category and resource type, and describes the amount of impact the project will have. The PEL reports are incredibly extensive; the FHWA asked UDOT to compare sample PEL reports for two projects that had already completed EA's and FHWA determined the PEL reports were comparable. As a result, FHWA agreed to allow UDOT to use the PEL reports to replace CE's, although Elisa noted that they are not a replacement for on the ground studies required for EA's and EIS's. For EA's and EIS's, the PEL report is really just a starting point that tells people working on the project what they need to look at in an EA or EIS.

Producing the PEL reports is incredible easy and takes only a day or so. Computationally it only takes a few minutes and most of the time is spent sending emails requesting for the PEL report or sending the report to various parties. As a result, PEL reports are produced for every project very early on to provide everyone with an idea of the problems a project may encounter. Furthermore, the entire long range plan was done completely in UPlan with all of the proposed projects outlined with links to the various PEL reports. This received great feedback from resource agencies as the resource agencies were able to look at and comment on all of the projects. This resulted in

improved communication between resource agencies and the project teams because the project teams had an idea going into the project what concerns the resource agencies had. Communication was also improved as a result of UPlan because everyone shared the same data, reducing discrepancies and arguments over information that may have been forgotten or different between different data sources.

UPlan was started five years ago and the automated PEL report feature was added two and a half years ago. Within the next year the system should be fully automated, removing the need for a middleman to produce the PEL reports. Updates to the data sources occur periodically and are done by an intermediary agency at the state GIS office.

Colorado DOT

PEL program

Colorado DOT has implemented FHWA's PEL program and it has been somewhat successful for them. They are still in the process of refining the program to best suit their state and are planning on releasing a handbook to better clarify the process (since this interview a rough draft of the handbook has been released). Overall the interviewee feels the best part of the PEL program is the PEL questionnaire because it goes to the basic issue PEL faces—what questions should be answered in the scoping stage regarding NEPA and environmental issues and how are these communicated down the line to people on the project team. The problem with the questionnaire is that it doesn't really

provide guidance on how the answers to the questions translate into a decision for the project. CDOT is hoping to address this issue with their handbook to create a more formalized process. The idea is that practitioners can do the questionnaire and consult the handbook to determine what should be done next. So far the PEL program is very open ended in Colorado. The questionnaire is completed, but how the questionnaire is used varies by region. Some MPO's use the questionnaire as an initiation type of study (ie they use it to ask themselves if they are ready for the NEPA process) while other MPOs use the questionnaire to focus on mitigation or on the purpose and need statement. The interviewee feels there is nothing wrong with this and that PEL should be used differently by different people/agencies depending on the circumstances.

The interviewee feels the long range plan doesn't really have much of a place in the PEL program and the environmental process in general. The level of detail required for the NEPA process simply isn't desired in the long range plan. Some decisions made in the long range plan might be involved in the PEL program (ie moving a corridor to a different region to avoid a wetland), but in general broad objectives and goals are laid out in the long range plan and not specific projects. With that being said, CDOT is currently doing some field tests to determine if some environmental analysis done during long range planning can practicably be used and transferred down to a more narrow planning level at some later point.

The overall sense of the interview was that the interviewee felt the PEL program was beneficial but that it had to be scaled to what the person/agency wanted to do. Knowing

what to use the PEL questionnaire for and what you are trying to accomplish with it is very important to its success. Furthermore it was strongly recommended to have a champion for the program, preferably someone in management who has a lot of clout.

Massachusetts DOT

Environmental Section

Massachusetts doesn't have a formalized policy in place to link planning and NEPA as they only recently became a DOT and haven't had much time to implement any such policy. They did try to carry over a project development guide from Mass Highway (the principle transportation planning organization before the DOT was created) that does have some linking planning and NEPA principles. These principles generally consist of encouraging the planning and environmental departments to work together. For larger projects this is done by assigning planning and environmental task forces to the project and simply having them work together on various parts of the NEPA documents (mainly purpose and need and alternatives analysis). On a broader level, the planning and project development processes intentionally overlap so the transition between the two is smooth. One of the reasons this informal coordination between the planning and environmental departments has worked as well as it has is because the heads of the departments are heavily invested in linking planning and NEPA. They plan on drafting formalized linking procedures soon as an update to the project development guide they obtained from Mass Highway.

Massachusetts, as a new and relatively small DOT, often doesn't have the resources necessary to function efficiently. Major federal projects are required to be fully funded and to be on the STIP and it's hard for Massachusetts to set aside enough money and be confident enough to put the project on the STIP. As such major projects are frequently delayed before they can even start. Another problem Massachusetts has is a lack of staffing, which requires them to extensively use consultants. This isn't necessarily a bad thing, but it is difficult to make changes when different consultants do much of the work. As a result of these difficulties, it's hard for the DOT to make much more progress besides the improved coordination efforts they have already initiated. They are attempting to do as much as possible however.

Michigan DOT

Planning Division

Michigan DOT has not initiated a formal linking planning with NEPA program, but they have been doing stuff on an informal basis. One of the problems Michigan DOT faces to a greater extent than the rest of the country is lack of money. The economy in Michigan has been in a recession for many years and as such funding has been cut drastically. There hasn't been an EIS done in Michigan in ten years and there are no projects on the horizon that would require one because essentially all of the money is spent on

maintaining the current infrastructure. Despite this, Michigan is attempting to put in place procedures for linking planning and NEPA sometime this year.

The informal process involves several steps and works on a project by project basis. When the project is in the pipeline being planned and before money has been committed there's a discussion with FHWA about whether they want to look at linking planning and NEPA for the project. They look at the area being considered for the project and before a decision is made on what type of NEPA document is needed (CE/EA/EIS) they go through the PEL checklist from FHWA. From there they begin to look at alternatives and potential impacts and start to talk to groups that would be affected by the potential impacts. This helps the environmental office make a better decision on what type of NEPA document will be used and also provides a head start on the information to be included in the document.

Previously the relationship between Michigan DOT and the FHWA regional office was very strained because there was not a lot of trust between the two. Lately, with a new FHWA administrator, the relationship has been improving. There were also previously problems with the resource agencies putting holds on projects because there was not a lot of communication early on in the process. Since SAFETEA-LU, MDOT has been working on coordination meetings between resource agencies and getting them involved in linking planning and NEPA. This coordination was initiated by staff members in various agencies and has been very effective.

Oregon DOT

Environmental Division

Oregon has some procedures for linking planning and NEPA, but these are informal in nature and not consistently supported throughout the state. ODOT is working on guidance regarding linkages, but it has not been distributed yet and until it is ODOT is simply trying to institute a philosophy that supports linking planning and NEPA. This is difficult to accomplish however because ODOT is divided into regions and it's difficult for someone from headquarters to require people in the regions to do thing without upper level support.

One initiative that has been somewhat successful has been developing “project planning reports”. This is a report a planner gives to the project leader to hand off information the project leader needs. Unfortunately, not all planners do these even though they ease the transition between planning and project development. This highlights the lack of a relationship between planners and environmental staff, who only really communicate at monthly/yearly meetings or conferences instead of on a daily or weekly basis. Oregon does have an agreement (CETAS) between resource agencies to encourage early participation in projects. CETAS also has an addition to it for major project (Major Transportation Project Agreement or MTPA) that dictates what should happen for larger projects, but it is not universally followed. In principle it was a good idea because it encouraged participation as early as the refinement planning and alternatives analysis stages, but political issues have taken away some of it's power.

The overarching theme of the interview was that linking planning and NEPA programs in Oregon have been grassroots initiatives. While there certainly are some individuals or agencies that fully support them, nothing statewide will be accomplished without a champion or push from upper level management. Certainly the funding necessary to implement a formal program wouldn't be available without upper level support.

Tennessee DOT

Environmental and Planning Divisions

Tennessee doesn't have a formal program for linking planning and NEPA but they have taken some informal steps. These informal steps include developing the purpose and need statements in planning documents and carrying it over to NEPA documents. TDOT has talked about putting together a manual of some sort, but they aren't sure they will continue with the manual as the informal program is working fairly well at this point. Tennessee just started participating in FHWA's PEL program and FHWA is pleased with how they are implementing it. Their participation in the PEL program is mainly limited to using the questionnaire, but TDOT feels it has been beneficial.

Tennessee does have an environmental streamlining agreement with resource agencies, which allows resource agencies to see the environmental document as it's being developed. The streamlining agreement includes four concurrence points that resource agencies have to check off on. This is almost exactly the same as initiatives done in other

states with concurrence/decision points. TDOT feels this has been extremely important in improving coordination and communication between various agencies.

Ohio DOT

Environmental and Planning Divisions

Ohio DOT doesn't have a specific program linking planning and NEPA, but when they redesigned the project development process recently they did so with integration in mind. Thus although there is no specific section regarding linkages, the actual linkages are integrated into the manuals and design guides and are a normal part of doing business. The new project development process has saved ODOT millions of dollars and so far ODOT has won every environmentally based lawsuit under the new process.

One of the important components of the new process is getting people from the planning and environmental departments to work together during the planning stages. Planners and environmental coordinators are required to meet on a regular basis for each project, sometimes as often as every week (how often depends on the specific project). The process also initiated a training program where people from the planning office received environmental training. These people screen projects for environmental concerns and bring these projects over to the environmental department where specific environmental strategies can be discussed. Furthermore some of the project specific planners were removed altogether from the planning office and placed with the environmental people.

The planning and environmental offices were even moved into the same building to encourage communication. As a result of all of this, all NEPA related aspects of a project are being talked about in the planning stage. This greatly reduces duplicative efforts between planning and NEPA.

Another major component of the new process is it allows the project manager to work with FHWA to determine how much detail and preliminary engineering is needed for the NEPA process. Previously FHWA wanted the NEPA process initiated well before detailed design which greatly strung out the NEPA process and resulted in having to redo work as changes were made to design. Now FHWA allows ODOT to go up to 85% design complete before doing NEPA work, which gives environmental staffers and project managers the ability to do their work based off of project specifics, not guesses and hedges against federal regulations.

The final component in ODOT's new system is the data sharing. ODOT combined all of the data into a single database and all of the agencies in Ohio, including the MPO's, use this database. ODOT went to great lengths to ensure that everyone had the same information, going so far as to ask some of the more advanced MPOs to dumb down their GIS systems to ensure uniformity across the state. This means there's no guessing when a project in an MPO's plan gets to the project development stage because everyone knows what data and tools have been used to analyze the project up to that point.

Overall, Ohio DOT is pleased with their new project development process. A major factor in it's success was having upper level support as the changes were a shock to many people (particularly the planners who moved from the planning department to environmental department). The main regret expressed in the interview was not spending more time and money to develop better GIS data as the data in some areas was not up to par with the data in other areas. Over time this will be fixed as data is updated, but it would have been easier and less of a hassle to plan for it earlier.

Florida DOT

Environmental and Planning Divisions

Florida DOT has done a great deal of work attempting to link the NEPA process and transportation planning process. The program under which the linking occurs is called Efficient Transportation Decision Making (ETDM) and it covers a broad range of initiatives.

Perhaps the most innovative or unique initiative from the ETDM program is the web based environmental information exchange tool. Using this tool environmental staff and resource agencies can look at a proposed project using GIS data and provide comments during the planning stages. The process is referred to as advanced screening and is required for certain projects such as major projects, bypasses, wetlands projects, etc. A qualifying project is put into the system and the GIS data associated with the project's scope is presented in an easy to understand fashion and is available to state and federal

resource agencies, Native American tribes, MPO's, planning councils and various other stakeholders. This web based tool, while providing an abundance of data, does not replace the NEPA process and the onsite studies needed for a complete NEPA analysis. Rather it works as a scoping process for NEPA, narrowing the focus for NEPA practitioners.

Another important aspect of ETDM was it clarified the roles and responsibilities of different agencies. FDOT had to work very hard to do this, issuing a variety of MOUs, conducting numerous meetings, and working with everyone from local tribes to the various MPOs to make sure every agency knew what was expected of it. An example of how this was accomplished was the designation of MPO liaisons for each FDOT district, which helped coordination between FDOT and the MPOs.

A third focus of ETDM was to strengthen relationships between planners and environmental departments. In all eight of the districts the environmental offices are closely aligned with the planning offices and in many of them the offices are combined. Another way this was done was by making sure planning managers knew to incorporate NEPA into plans, forcing them to communicate with environmental staff.

Overall, ETDM has cost an estimated \$31 million since 2004, which includes the web based tool, the agency agreements, staff costs, and everything else. About \$16 million of this was an initial cost and the rest has been spent on maintaining and tweaking the system. Over time the costs have gradually gone down.

Much of the information discussed above refers to short range plans as long range plans are much harder to integrate with NEPA. This is because of the level of detail disparities between long range planning and the NEPA process. FDOT is attempting to connect the two, but in general the long range plan is mainly used only for purpose and need statements and to figure out what environmental issues need to be focused on.

The last thing mentioned in the interview was that the hardest part of the ETDM program was getting the process set up and having planners and environmental staffers work together. The technological improvements and tools needed for the process are easier to set up in comparison to the organizational changes needed to make the transition successful.

Appendix D: In State Interview Questions

Question 1: What plans is your agency responsible for and what is your agency's role in the project development process?

Question 2: How are NEPA requirements typically addressed by your agency?

Question 3: What resources are available to you/your agency for conducting planning and project planning in support of NEPA?

Question 4: Are you aware of any pre-planning work that local governments or other agencies do that would feed positively into the NEPA process and reduce duplicative or parallel efforts?

Question 5: Which agencies have typically delivered planning documents that support the environmental clearance process?

Question 6: What procedures/policies/practices (i.e. "Best Practices") do these agencies have that can enhance NEPA compliance in planning and project development?

Question 7: What content, information, data, and level of detail have been included in robust planning studies and NEPA documents to comply with legal requirements?

Question 8: What do you see as the problems/pitfalls/concerns with the NEPA process?

Appendix E: In State Individual Interview Summaries

HGAC

HGAC is the MPO for the Houston region and as such is larger and more sophisticated than most MPO's. It has made attempts to streamline the NEPA process by better integrating the NEPA process with the planning process, however these attempts have not been extensive.

One of HGAC's principle functions, like all other MPOs', is to develop the RTP (the long range plan). This feeds into the project development process by providing the purpose and need for projects. Currently HGAC is trying to incorporate alternatives in the RTP to begin the alternatives analysis process earlier, but so far the RTP mostly consists of simply identifying transportation needs such as demand, capacity, access, safety, etc. Generally early alternatives analysis isn't done until the next level of planning, the corridor and sub-regional level plans. Once the projects have been identified, HGAC will do project specific feasibility studies (for large projects) or they'll go straight into the environmental review process. At this point the focus shifts from planning to engineering, as working on the design is necessary to advance the NEPA process. After the environmental process has been mostly finished, project programming begins and HGAC attempts to match up the available resources with the project's needs. Theoretically, the planning process feeds directly into the NEPA process throughout the duration of the two processes, but this doesn't always happen because there are often significant delays between the two processes. The greater the delays, the more likely

conditions outlined in planning are to change and the more difficult it becomes for environmental staffers to communicate with planners. One of the main reasons for these delays is the uncertainty in funding associated with many projects. In order to perform a NEPA analysis, the project must be funded and in a plan, which means agencies often have to wait for funding before they can start the NEPA process. By this point, much of the work done in the planning process has been forgotten, misplaced, or become irrelevant because of changing conditions. As a result, even though HGAC attempts to have environmental workers work with planners, communication between the two isn't always great.

HGAC does have a screening process that uses information from planning to determine if certain alternatives have fatal flaws. The screening process is designed to eliminate alternatives before detailed designs are done. Furthermore, when the NEPA process starts the first step is a scoping discussion where they make sure the proper purpose and need and alternatives have been identified.

Bryan District

Interviewee works in the advanced planning and environmental sections for Bryan District. Bryan District doesn't do anything out of the ordinary with regard to completing NEPA reviews and doesn't have any particular program focused on linking planning and NEPA.

Bryan District, like most other agencies performing NEPA work, doesn't start the NEPA review until they start implementing a specific project. During the environmental review, environmental staffers will work with planners to develop the necessary documents but this is informal and not the result of a specific program designed to bring about communication between the two groups. The informal communication is made easier by the fact that Bryan District is not very large and doesn't have many large environmentally sensitive projects. Most of their work involves completing CE's with a few EA's, and they've never had to complete an EIS.

Interviewee felt the best approach to streamlining the environmental review process was early resource agency involvement. In interviewee's experience, if the resource agencies have seen early on a plan that shows environmental concerns (identified fatal flaws, mitigation strategies, etc.) they are more willing to go along with it. As a result, Bryan District has tried to do this early coordination when they know they will have an environmentally sensitive project. One of the best techniques they use walking the project with relevant resource agencies so that everyone can see firsthand and discuss what the environmental issues may be.

When discussing some of the problems involved with the NEPA process, interviewee mentioned two interesting things. The first was that TxDOT doesn't want to review a less than complete design but the resource agencies don't want to work with an engineer that has already completed their design. The second issue, from their perspective, is the time it takes to get documents reviewed.

TxDOT ENV

The Environmental Affairs Division of TxDOT is responsible for providing support to the district offices as well as reviewing and approving projects. Specifically, the interviewee deals with policies and is not involved first hand in the project development process.

Ideally the first step of performing the NEPA work is a scoping process. The scoping process is meant to be a collaborative process where the people completing the NEPA documents (the sponsor agencies and consultants) can come together with the people reviewing the document (ENV, FHWA, etc.) and identify the issues the project faces, what the criteria for the project are, etc. The scoping effort should lay out how the environmental process will proceed and from that point forward the process should follow the plan laid out in the scoping effort. The scoping effort should also include discussion on if there are any planning documents the environmental review team should look at/request. TxDOT is currently trying to change the process slightly by leaning more towards technical reports. In other words, the report summarizes decisions and the details are included in technical reports. These technical reports can be sent separately to ENV for early review, thus streamlining the process.

Linking planning and NEPA is difficult because many of the important decisions are in the hands of planning agencies and linking can only really occur therefore if the planning

agencies draft their plans in such a way that they can be used in NEPA documentation. Currently ENV works with planning agencies when the planning agencies try to initiate linkages, but interviewee is unaware of any current programs to overlap the two.

The only linkage between planning and NEPA the interviewee could think of in Texas was the Regional Toll Analysis conducted for interconnected systems of toll roads. The analysis mainly looks at EJ issues but there is other environmental information included. The analysis is done by the MPO and environmental staff/consultants use information in the analysis in environmental documents. The reason this was done was because TxDOT was worried about toll roads being built so fast that indirect and cumulative impacts would be overlooked.

Some other concerns mentioned during the interview include:

1. Trying to decide what level of detail planning documents should include is difficult because different agencies require different levels of detail. For example, FHWA wants resource agency coordination and impacts to be quantified in NEPA documents, but other agencies don't want detailed design to be done.
2. More training opportunities for practitioners should be provided to provide information on how to link planning and NEPA.
3. Some MPO's such as NCTCOG and HGAC have started doing preplanning work that feeds into NEPA and reduces duplication, but the interviewee doesn't believe there is as much duplicative work as some people believe because the levels of detail for planning and NEPA are so different.

4. The new MAP-21 bill may change a lot of things. Interviewee doesn't believe the PCE section will affect TxDOT much because TxDOT already had a programmatic agreement with FHWA. There is a section in the bill about measuring performance, which could be very time consuming depending on how the implementing regs are written.

Waco MPO

As a relatively small MPO, the Waco MPO doesn't have a lot of resources to link planning and NEPA. They are at the top end of the project development process in that they identify a need for a project or if the project is proposed they include it in the MTP. Thus they don't generally get involved in NEPA reviews. They will try to identify potential constraints along a corridor or flag a project with potential problems and look for some alternatives, but in general that work is left to the sponsor agency. In general the information they provide on flagging projects or identifying constraints comes from NEPAassist.

Dallas District

As a major district office, Dallas district does a lot of the environmental documentation directly and does quality assurance/quality control for the environmental documentation done by consultants. The section the interviewee works in (advanced project development) does a lot of work making sure the projects are consistent with planning

documents. As a result, there is significant communication between the interviewee's section and planning departments. For example, when working on the I-35 corridor, the district office worked on the design then sent the design to the MPO to include in transportation plans and for the MPO to do some analysis (principally air quality) on it. This is important because plans have to correctly describe projects, approximate costs, and show staging in the correct years. One of the problems encountered during this coordination is the lack of flexibility agencies have with phasing projects and using information from planning documents. For example, NCTCOG is one of the best MPO's with regard to putting information in planning documents, but the district can't use a lot of that information (EJ and indirect and cumulative impacts specifically) directly. Thus the only information the district takes from transportation plans are purpose and need, air quality information, and the regional toll analysis.

One suggestion the interviewee had was to ease the requirements for smaller projects. For example, requiring clearance from ENV and FHWA for every project isn't necessary. Small projects should have an audit process so that ENV and FHWA can check the projects but there isn't a long wait for approval. Furthermore, establish baseline conditions for resource agency coordination. Including a slew of resource agencies because one or two trees would be cut down isn't practical. Resource agencies in general have been very cooperative about early coordination, but in many cases this coordination is a formality and not necessary.

Texas Turnpike Authority

Texas Turnpike Authority was split into toll operations and strategic project development groups. Interviewee is currently overseeing a PEL study in San Antonio. The goal is to make decisions on alternatives outside of the NEPA process so that in the NEPA process there are only a few alternatives to look at. The study also does preliminary work on the affected environment and purpose and need sections of the NEPA documents. This study is a pilot and if it goes well they will try to implement it on more projects. The biggest challenge they're currently facing is getting FHWA on board early enough because FHWA requires a project to be funded and in plans. In the past this has been a problem and required them to do NEPA work on projects before they had funding. Sometimes this meant the work would be wasted because the project would not come to fruition or would be shelved for years.

Interviewee believes information in the planning process should be used to look for fatal flaws and to eliminate alternatives and should be at a level of detail to providing scoping information for the NEPA process (ie identify issues and concerns for the NEPA process).

The biggest problem with the NEPA process is the varying expectations and levels of experience of the people involved. Guidance with FHWA regarding what is expected of everyone so that everything is consistent and standardized would be beneficial.

NCTCOG

NCTCOG does things a little differently than most MPO's because they are more involved in the project development process. NCTCOG has staff who are directly involved with NEPA documents and do environmental modeling/studies for NEPA documents. In many cases these staffers help and guide staff from different agencies who are actually responsible for the NEPA documentation. Working closely with project development allows NCTCOG to ensure there is excellent conformity between projects and transportation plans.

Many of the planning documents and studies NCTCOG does are written in such a way that they support NEPA documents. Feasibility studies in particular are written so that information can feed directly into purpose and need, existing conditions, and alternatives analysis sections. They used to have problems with people misinterpreting the plans, so they hired a person with experience writing NEPA documents to help write the planning documents.

NCTCOG works with a wide variety of agencies to effectively move projects through the project development process. A willingness to work with other agencies is the first and foremost best practice required to streamline the NEPA process. This is especially true because resource agencies don't receive funding to perform planning functions, so it can be difficult to get their input on some issues.

The biggest problem with the NEPA process is the lack of flexibility from FHWA and federal requirements. FHWA makes it clear that planning funds are only supposed to be used for planning purposes, not for NEPA. Another example of lack of flexibility is the funding requirements for projects. If a plan calls for a 10 lane highway, you can't do 6 lanes and then 4 lanes later even if that's all the available money can support. Doing it this way would require an entirely separate NEPA document for each project and the plan would have to be changed.

TxDOT ENV

ENV has three sections

1. Programs management—They draft policies, procedures, and guidelines.
2. Project delivery—Acts as a clearinghouse by reviewing and approving NEPA documents. Also works closely with the 25 districts in preparing the documents.
3. Technical services—Provide support on technical subjects such as archeology, history, biology, hydrology, etc.

Interviewee works in the technical services group. They assist the districts with technical subject areas and the district is responsible for submitting the documents to the Project delivery group. The project delivery group will send it to the Technical services group to review the technical subjects.

Some positives best practices include:

New rules require early coordination, which results in up front scoping procedures that identify environmental concerns for projects.

Predictive modeling, which is still in its early stages, would theoretically use inputs such as species habitat, land use, population growth, etc. to predict future conditions.

Regional analysis involves developing regional scenarios which would relate different projects that are in the same region. For example, if a project in a region doesn't have a certain species, you could then say another project in the same region also wouldn't have the species. This reduces duplication.

The two main problems with the NEPA process currently are:

1. The NEPA review isn't started early enough. In order to reduce delays, NEPA staff should be involved earlier in the planning process.
2. Lack of resources for resource agencies. In some cases, TxDOT is funding positions in federal agencies because the delays are too extensive.

Tyler Longview MPO

As a small MPO (only 3 full time staffers), the Tyler Longview MPO doesn't do much NEPA related work. The district office handles almost all of the NEPA work, with the MPO only doing a few broad things. For example, the MPO knows where wetlands are which drives where development goes. A benefit of being small is that their relationship

with the district is very good and if the district does have questions about NEPA documentation the lines of communication are open (although this very rarely happens).

The prospect of doing more to integrate the NEPA and planning processes, from the perspective of the Tyler Longview MPO, isn't practical due to the size of the MPO.

TxDOT ENV

Interviewee is responsible for shepherding projects through the environmental clearing process at ENV and on to FHWA. Interviewee listed several problems with the current way the environmental process is performed:

The biggest problem is that TxDOT staff don't have the expertise needed to write NEPA documents. The underlying problem is that consultants are used for every part of a NEPA review. This is not efficient and makes for very long and technical NEPA reports. Interviewee was very emphatic on this point.

Specific reviewers at FHWA expect different things so reports have to be tailored based on who will be reviewing them

TxDOT should focus more on the needs of the public rather than the needs of developers
There is some guidance on the level of detail and data to be used in planning studies, but the guidance is not in one place and is difficult to find

Politicians expect results in unrealistic time frames.

Everybody from TxDOT, to FHWA, to the MPO's is understaffed.

Many MPO's don't know what the federal NEPA requirements are.

Dallas District

The interviewee is responsible for ensuring conformity between various planning documents and the NEPA review. Much of this is simply accounting and coordinating with the various agencies responsible for planning documents (principally the MPO). As the NEPA process is carried forward, they have to make sure changes made as a result of the NEPA process are documented in transportation plans.

Dallas district has tried a new initiative where they will include regional level planning information such as wetland areas, endangered species areas, etc. in the long range plans. This information is updated every few years and can be folded into the NEPA documentation. This information serves as a high level planning analysis and scoping for the NEPA process, which means the district can get right into the details of the NEPA process. In general the idea was to use the planning information to determine how in depth the NEPA review will need to be for certain subjects and to eliminate concerns that were nonexistent.

Interviewee didn't feel there were many problems with the NEPA process as long as the public involvement aspect of the process is done correctly.

CAMPO

CAMPO is the MPO for the Austin area. As an MPO they don't participate too much in the NEPA process. Their role in the NEPA process is typically to provide high level information and answer questions about projects. They have also begun participating in monthly working groups with TxDOT and FHWA as projects go through the project development process.

The information provided in long range plans comes from GIS data they get from NEPAAssist, their own GIS layers, and layers from other agencies such as the Texas Historical Commission. The NEPAAssist software is a good idea, but not very useful because it can only be used to view GIS layers and they can't overlay it with their own data. If NEPAAssist were altered to allow them access to the GIS data and if other agencies added their GIS layers, it would be a fantastic tool.

CAMPO has only been included on the monthly project meetings with TxDOT and FHWA for about a year and they feel this is a huge step in the right direction as far as communication between agencies goes. There is a feeling that environmental people hold the environmental process close to their chest and it's difficult for the MPO to get more involved. One side effect of this is that even though the MPO may put environmental information in the plans, the environmental staff will go through and do the analysis again. One of the barriers to this is the fact that the NEPA process kind of has its own language, making communication difficult.

Finally, linking planning and NEPA is a good idea but they worry that it might simply be shifting work from environmental sections to planning sections. This is fine, but the funding should reflect the change in work requirements.

TPP

The Transportation Planning and Programming Division is the transportation planning arm of TxDOT. As part of this planning they do take into account environmental considerations. When a project is conceived they do value engineering to find fatal flaws and an alternatives analysis to minimize environmental impact. When the project need is identified, a corridor study is done with alternatives analysis and they try to analyze environmental information in the corridor studies. This is all done at a very high level so there isn't too much detailed information, but it is well documented. Often when they are involved it's still too early to do much environmental work.

One of the problems with the NEPA process is the how difficult it is to clear projects with FHWA. This, combined with the lack of flexibility on project funding, makes it difficult to get projects done in a timely manner. Project sponsors have to make estimated guesses on when and where money will come from.

The interviewee spent time working in the environmental section of TxDOT before switching to planning. This experience helps them greatly and allows them to make

better decisions on what to include in plans. They recommend that all planners have training and knowledge of what is required in NEPA.

Waco District

The principle task for the environmental group at Waco district is getting projects correctly represented in plans. The stringent federal requirements on projects being fully funded and in plans is onerous. Assuring accurate representation in the plans is especially difficult when the MPO or cities change their priorities.

Getting information from local plans is very difficult. Frequently all they can get from local plans are project descriptions, project costs, and sometimes a proposed letting date. Information on the purpose and need of the project and discussion of the future consequences of the project would be greatly beneficial.

When doing indirect and cumulative impacts, it is difficult to determine the purpose of the project and how it will affect the community. The city/MPO plans give a vision for the area, but they are sometimes dated and don't often show the process behind the results. Better documentation on what influenced decisions made in the plans is critical. They communicate well informally with the MPO, but if decisions and information were better documented many of the questions they ask the MPO would already be answered.

Houston District

The project development group in the Houston district creates schematic drawings and drafts environmental documents for projects. This is done for all projects in the district, but consultants do most of the larger projects.

When preparing environmental documentation the first things they look at are any studies that may have been done. Studies generally provide good information to start the NEPA process and don't go into too much detail. If no studies have been done, they'll question designers and have to gather their own data on traffic, mobility, congestion, etc. They do use transportation plans when appropriate, but the plans don't really have a lot of usable information. The MPO plans do have good information on air quality and if the MPO has done corridor studies those will be used as well, but in general transportation plans aren't very helpful for NEPA documentation.

They do a great deal of communication and coordination with the public and other agencies, but not everyone is receptive. They hold public meetings and send different sections of NEPA documents to different resource agencies for comment and review. On EIS level projects they have early scoping meetings, but many times the invited agencies don't show up.

The two biggest problems with the NEPA process in the eyes of the Houston district are the review times required by ENV and FHWA and the lack of objectivity in the review process.

San Antonio MPO

The San Antonio MPO works very similarly to other MPO's. They don't worry too much about NEPA requirements because those are the responsibility of the project sponsor (typically TxDOT). The only thing the MPO does is a very high level analysis of potential environmental concerns and mitigation strategies for a project. This is done using NEPAassist and once the broad environmental concerns have been identified the sponsor agency deals with them.

San Antonio has just started to use the PEL program. The project it was used on was initiated by the toll authority (Alamo RMA) and now the PEL program is being used on other projects in the region.

As an MPO that doesn't deal too much with the NEPA process it's hard for them to critique it. They do feel however, that resource agency coordination is very difficult due to a lack of participation.

Corpus Christi MPO

Corpus Christi MPO does some preliminary environmental work in long range plans similar to what other MPO's do. Principally the use NEPAssist and some other GIS based information sources to identify environmental concerns and fatal flaws. NEPAssist is a useful tool; it doesn't provide a scoring system the way a screening tool would but it does provide a lot of information.

An example of some typical preplanning work they do is the establishment of technical advisory committees where information is shared between different agencies. Early coordination with resource agencies is important, and even in long range plans resource agencies are consulted. Furthermore, during feasibility studies they look at fatal flaws to find the corridor that minimizes environmental impact. The information from feasibility studies is included in the NEPA review and is well documented.

Appendix F: Guidance on Linking Planning and NEPA Table

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
<i>Purpose and Need</i>				The long range plan should include a draft of the purpose and need section for the environmental document and should contain a description of every project that is expected to require NEPA documentation. While much of this information may already be included in the long range plan in one or more locations, it should be synthesized into a coherent description and justification for each project.. Information that is consistent across multiple projects (multiple CE's for routine maintenance or repairs, for example) can be combined to save time and space.
<ul style="list-style-type: none"> Describes overall need for the project. 	2	3	3	Regional long range plans should discuss the overall need for each project. This is the principle reason for the project and is supplemented by more detailed information later on in the long range plan/purpose and need statement.
<ul style="list-style-type: none"> Discusses if the project is mandated by federal, state, or local legislation. 	2	3	3	Regional long range plans should discuss and reference pertinent legislation that would mandate a project.
<ul style="list-style-type: none"> Describe how the project fits into the overall transportation system. 	2	3	3	Regional long range plans should discuss how a project fits into a region's overall transportation system. Specifically, how does the project increase regional mobility and accessibility? Is the project a phase or a segment of a larger project? Additionally, does the project create new linkages in the transportation network or does it provide service for an underserved community.
<ul style="list-style-type: none"> Describes current and projected capacity and demand and how the project would meet the projected values. 	2	3	3	Current and projected roadway or ridership capacity and demand should be discussed that is relevant to the proposed project. In some cases this information might not be as necessary, such as routine maintenance projects or bridge replacements that do not add capacity
<ul style="list-style-type: none"> The project's effect on economic 	2	3	3	The long range plan should provide a broad but reasoned overview of

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
development and how this is consistent with objectives stated in economic development plans.				how the project will improve regional economic development and support economic growth.
<ul style="list-style-type: none"> The project's affect on community and social development and how this is consistent with objectives stated in community and social development plans. 	2	3	3	The long range plan should provide a broad overview of how the project might affect community and social development and identify any locations in the project's corridor that might create issues.
<ul style="list-style-type: none"> The project's effect on land use and how this is consistent with objectives stated in land use plans. 	2	3	3	The long range plan should provide an overview of how the project could alter land use for the corridor and the anticipated positive or negative impacts.
<ul style="list-style-type: none"> Describes how the project serves various modes of transportation (connections to air, rail, port, etc.) 	2	3	3	The long range plan should identify the modes of transportation within the project corridor and any new connectivity it might create with other transportation modes.
<ul style="list-style-type: none"> Discusses any safety issues the project may be addressing. 	2	3	3	The long range plan should identify any safety issues or concerns the project remedies .
<ul style="list-style-type: none"> Alternative conditions such as roadway deficiencies or high maintenance costs the project may be correcting. 	2	1	1	The long range plan's project descriptions should identify any alternative conditions, if they are known.
<i>Alternatives Analysis</i>				At a minimum, the long range plan should provide a basic fatal flaw analysis for each project. A more detailed study is preferable if the agency has the resources. This effort should concentrate on projects that are expected to be included in the TIP over the next 4 to 5 years.
<ul style="list-style-type: none"> Discussion of how and why alternatives were selected for further study and why others were 	0	1	1	The long range plan should include a basic fatal flaw analysis and this analysis should discuss the reasoning behind identification of the fatal flaws and any potential alternatives that were eliminated from further

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
eliminated. Alternatives should include a no build alternative, Transportation System Management alternative(s), and any other build alternatives.				consideration.
• Descriptions of the alternatives using maps or other visual aids	0	1	1	The long range plan should include general information, such as corridor location maps and any alternatives that have been identified as viable,
• Descriptions of the alternatives' termini, location, costs, and overall concept.	0	1	1	General information, such as termini, locations, costs, and overall concepts that apply to the alternatives that have been identified.
• Description of the status and extent of the ROW that may be used for each alternative	0	1	1	Any known ROW issues should be identified in the long range plan. For example, if land is known to be involved in a court case over ownership or a significant parcel is owned by an individual or organization that is particularly litigious.
• Development of more detailed design to a level of detail sufficient to compare alternatives	0	0	0	The project description in the long range plan should identify any significant design constraints or issues, such as major river crossing or winding roadways.
<i>Affected Environment</i>				
• The general population affected by the proposed action should be described, including information on the race, color, national origin, and age of the population	2	2	2	All long range plans should take into consideration demographic information and reference this information. Information should be provided at a level of detail sufficient to identify potential concerns on the project.
• Socially, economically, and environmentally sensitive locations should be identified. (Note: some locations may not be described in	2	2	2	Long range plans should identify socially, economically, and environmentally sensitive locations at a level of detail sufficient to identify potential concerns on the project.

NEPA Process Components	Statewide L RTP	RPO/TxDOT district	MPO	Comments/Suggestions
detail to prevent vandalism)				
• Neighborhoods	1	2	2	
• Elderly/minority/ethnic communities	1	2	2	
• Parks and wildlife refuges	2	2	2	
• Historic and archeological resources	1	2	2	
• Wetlands and other water resources	2	2	2	
• Churches and schools	1	2	2	
• Endangered species habitat	1	2	2	
• Hazardous material sites	1	2		
• Other natural resources such as trees, soil, etc.	1	2	2	
• Other federal activities that may impact the affected environment should be described.	1	2	2	Any information the planning agency has on the subject should be included, but occasionally the information may not be available.
• Brief description of the planning processes for local jurisdictions including land use and transportation plans that are relevant to the proposed project	1	3	3	The regional long range plans should adequately describe the processes they used to make decisions and should reference other relevant plans such as land use and other transportation plans.
Environmental Consequences				
• Description of the probable impacts and proposed mitigation measures	0	0	0	Impacts and mitigation strategies for individual alternatives should not be included in the long range plan.

NEPA Process Components	Statewide L RTP	RPO/TxDOT district	MPO	Comments/Suggestions
for each alternative				
• Social	0	0	0	Impacts and mitigation strategies for individual alternatives should not be included in the long range plan.
• Economical	0	0	0	Impacts and mitigation strategies for individual alternatives should not be included in the long range plan.
• Environmental	0	0	0	Impacts and mitigation strategies for individual alternatives should not be included in the long range plan.
• A general impacts section should be created to discuss the probable impacts and proposed mitigation measures that are relevant to all alternatives	1	1	1	General impacts and mitigation strategies that apply across multiple alternatives should be incorporated into the long range plan
• Social	1	1	1	Example: A new freeway project designating space for new public park and recreation space, regardless of the final route or design of the freeway.
• Economical	1	1	1	Example: The general economical impacts of connecting two urban centers, regardless of the mode of transportation used to connect them.
• Environmental	1	1	1	Example: A commitment to plant new trees to replace trees lost as a result of a project.
Public Involvement and Coordination				All the information should be made available for public review and involvement. This public involvement should be incorporated in the overall public requirement section of NEPA as it can only add value to the NEPA documentation.
• Early Scoping	0	0	0	Early scoping would not have started before the long range plans, resulting in no public involvement or coordination for it.
• Correspondence and meetings with community groups and individuals	1	1	1	Example: Meeting minutes from any public hearings.
• Correspondence and meetings with	1	1	1	Example: Copies of emails or letters from agencies.

NEPA Process Components	Statewide LRTP	RPO/TxDOT district	MPO	Comments/Suggestions
relevant government agencies				
<ul style="list-style-type: none"> Summary of comments received and list of all comments in the appendix 	1	1	1	
<ul style="list-style-type: none"> Discussion of how comments/issues were resolved/addressed 	1	1	1	

Appendix G: Workshop Questions

Question Number	Question
1A	<p>In the Statewide Long Range Plan, how much information should be included describing the overall need for a specific corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
1B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the overall need for a specific corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
2A	<p>In the Statewide Long Range Plan, how much information should be included regarding whether a specific corridor is mandated or suggested by federal, state, or local legislation? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
2B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included regarding whether a specific corridor is mandated or suggested by federal, state, or local legislation? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
3A	<p>In the Statewide Long Range Plan, how much information should be included describing how a corridor fits into the overall transportation system? *In the context of NEPA*</p>

	A. None B. Very Little C. Some D. A Significant Amount
3B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing how a corridor fits into the overall transportation system? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
4A	<p>In the Statewide Long Range Plan, how much information should be included describing the current and projected capacity and demand at a corridor's location and how the corridor would meet the projected values? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
4B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the current and projected capacity and demand at a corridor's location and how the corridor would meet the projected values? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
5A	<p>In the Statewide Long Range Plan, how much information should be included describing a corridor's effect on economic development, community and social development, and land use and how these effects are consistent with objectives stated in economic development, community and social development, and land use plans? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>

5B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing a corridor's effect on economic development, community and social development, and land use and how these effects are consistent with objectives stated in economic development, community and social development, and land use plans? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
6A	<p>In the Statewide Long Range Plan, how much information should be included describing how a corridor serves various modes of transportation (connections to air, rail, ports, etc.)? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
6B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing how a corridor serves various modes of transportation (connections to air, rail, ports, etc.)? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
7A	<p>In the Statewide Long Range Plan, how much information should be included describing any safety issues a corridor may be addressing? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
7B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing any safety issues a corridor may be addressing? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>

8A	<p>In the Statewide Long Range Plan, how much information should be included describing any alternative conditions a corridor may be correcting (roadway deficiencies, high maintenance costs, etc.)? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
8B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing any alternative conditions a corridor may be correcting (roadway deficiencies, high maintenance costs, etc.)? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
9A	<p>In the Statewide Long Range Plan, how much information should be included discussing how and why corridor alternatives were selected for further study and why others were eliminated? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
9B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included discussing how and why corridor alternatives were selected for further study and why others were eliminated? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
10A	<p>In the Statewide Long Range Plan, how much information should be included describing corridor alternatives using maps or other visual aids? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>

10B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing corridor alternatives using maps or other visual aids? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
11A	<p>In the Statewide Long Range Plan, how much information should be included describing corridor alternatives' termini, locations, costs, and overall concepts? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
11B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing corridor alternatives' termini, locations, costs, and overall concepts? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
12A	<p>In the Statewide Long Range Plan, how much information should be included describing the status and extent of the ROW that may be used for each alternative? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
12B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the status and extent of the ROW that may be used for each alternative? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
13A	<p>In the Statewide Long Range Plan, how much information should be included regarding development of detailed design to a level sufficient to compare alternatives? *In the context of NEPA*</p>

	A. None B. Very Little C. Some D. A Significant Amount
13B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included regarding development of detailed design to a level sufficient to compare alternatives? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
14A	<p>In the Statewide Long Range Plan, how much information should be included describing the general population to be affected by a corridor, including information on the race, color, national origin, and age of the population? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
14B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the general population to be affected by a corridor, including information on the race, color, national origin, and age of the population? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
15A	<p>In the Statewide Long Range Plan, how much information should be included identifying socially, economically, and environmentally sensitive locations? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
15B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included identifying socially, economically, and environmentally sensitive locations? *In the context of NEPA*</p>

	A. None B. Very Little C. Some D. A Significant Amount
16A	<p>In the Statewide Long Range Plan, how much information should be included describing other federal activities that may impact the affected environment of a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
16B	<p>In Metropolitan and Rural Transportaion Plans, how much information should be included describing other federal activities that may impact the affected environment of a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
17A	<p>In the Statewide Long Range Plan, how much information should be included describing the probable impacts and proposed mitigation measures that are relevant for all atternatives of a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
17B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the probable impacts and proposed mitigation measures that are relevant for all atternatives of a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
18A	<p>In the Statewide Long Range Plan, how much information should be included describing the probable impacts and proposed mitigation measures for each alternative? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>

18B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing the probable impacts and proposed mitigation measures for each alternative? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
19A	<p>In the Statewide Long Range Plan, how much information should be included describing early scoping efforts for a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
19B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing early scoping efforts for a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
20A	<p>In the Statewide Long Range Plan, how much information should be included describing correspondence and meetings with community groups, individuals, and relevant government agencies about a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
20B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included describing correspondence and meetings with community groups, individuals, and relevant government agencies about a corridor? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>

21A	<p>In the Statewide Long Range Plan, how much information should be included summarizing the comments received, including listing all of the comments in the appendix? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
21B	<p>In Metropolitan and Rural Transportation Plans, how much information should be included summarizing the comments received, including listing all of the comments in the appendix? *In the context of NEPA*</p> <p>A. None B. Very Little C. Some D. A Significant Amount</p>
22	<p>The development of a GIS based data sharing tool that incorporates information/layers (environmental, social, existing infrastructure, etc.) from all the MPO's, resource agencies, and TxDOT districts around the state would be a valuable tool for linking planning with NEPA.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>
23	<p>How feasible is it to develop and implement a GIS based data sharing tool that incorporates information/layers (environmental, social, existing infrastructure, etc.) from all the MPO's, resource agencies, and TxDOT districts around the state?</p> <p>A. Not feasible B. Probably not feasible C. Neutral D. Feasible E. Very feasible</p>
24	<p>TxDOT would benefit from screening form(s)/report(s) that summarize the status of a proposed project and identify any relevant environmental concerns.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>

25	<p>How feasible is it to develop and implement some sort of screening form(s)/report(s) that summarize the status of a proposed project and identify any relevant environmental concerns?</p> <p>A. Not feasible B. Probably not feasible C. Neutral D. Feasible E. Very feasible</p>
26	<p>TxDOT should incorporate collaboration points (points in time where relevant stakeholders meet to discuss the regional plan) to ensure early coordination and communication.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>
27	<p>How feasible is it for TxDOT to incorporate collaboration points (points in time where relevant stakeholders meet to discuss the regional plan) to ensure early stakeholder coordination and communication?</p> <p>A. Not feasible B. Probably not feasible C. Neutral D. Feasible E. Very feasible</p>
28	<p>Communication and cross-training between environmental and planning staff would accelerate project delivery.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>
29	<p>Housing environmental and planning staff in the same office would accelerate project delivery.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>
30	<p>Any initiative to link NEPA and planning should include formalized agreements with resource agencies and stakeholders.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>

31	<p>To be effective, any initiative designed to link NEPA and planning needs to have committed upper level management support.</p> <p>A. Strongly Disagree B. Disagree C. Neutral D. Agree E. Strongly Agree</p>
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Appendix H: Workshop Results

Houston Workshop							
Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1A	5	1	3	0	0	0.8	0
1B	0	1	5	3	0	2.2	2
2A	0	2	5	2	0	2.0	2
2B	0	0	6	3	0	2.3	2
3A	1	3	4	1	0	1.6	2
3B	0	1	5	3	0	2.2	2
4A	0	2	6	1	0	1.9	2
4B	0	0	5	4	0	2.4	2
5A	2	3	3	1	0	1.3	1
5B	0	2	4	3	0	2.1	2
6A	0	1	8	0	0	1.9	2
6B	0	0	3	6	0	2.7	3
7A	0	3	5	1	0	1.8	2
7B	0	0	6	3	0	2.3	2
8A	3	0	6	0	0	1.3	2
8B	0	0	6	3	0	2.3	2
9A	5	2	2	0	0	0.7	0
9B	2	1	3	3	0	1.8	2

10A	2	3	3	1	0	1.3	1
10B	1	1	3	4	0	2.1	3
11A	2	5	1	1	0	1.1	1
11B	0	2	2	5	0	2.3	3
12A	6	3	0	0	0	0.3	0
12B	1	2	4	2	0	1.8	2
13A	8	1	0	0	0	0.1	0
13B	2	4	2	1	0	1.2	1
14A	5	0	2	2	0	1.1	0
14B	1	1	3	4	0	2.1	3
15A	2	4	3	0	0	1.1	1
15B	0	1	5	3	0	2.2	2
16A	1	6	2	0	0	1.1	1
16B	0	2	7	0	0	1.8	2
17A	4	4	0	1	0	0.8	0
17B	1	2	4	2	0	1.8	2
18A	7	2	0	0	0	0.2	0
18B	2	5	2	0	0	1.0	1
19A	4	3	2	0	0	0.8	0
19B	2	5	2	0	0	1.0	1
20A	4	4	1	0	0	0.7	0
20B	2	3	3	1	0	1.3	1
21A	5	1	3	0	0	0.8	0

21B	2	3	0	3	0	1.5	1
22	0	0	0	7	2	3.2	3
23	1	1	0	7	0	2.4	3
24	0	0	1	6	2	3.1	3
25	0	2	1	5	1	2.6	3
26	0	0	1	6	2	3.1	3
27	0	1	1	7	0	2.7	3
28	0	1	0	7	1	2.9	3
29	1	2	3	2	0	1.8	2
30	0	3	3	3	0	2.0	1
31	0	1	0	6	2	3.0	3

Pharr Workshop							
Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1A	0	3	4	2	0	1.9	2
1B	0	1	5	3	0	2.2	2
2A	0	3	5	1	0	1.8	2
2B	1	1	5	2	0	1.9	2
3A	0	2	6	1	0	1.9	2
3B	0	1	5	2	0	2.1	2
4A	0	3	5	1	0	1.8	2
4B	0	1	6	2	0	2.1	2

5A	1	1	5	2	0	1.9	2
5B	1	1	7	0	0	1.7	2
6A	0	0	8	1	0	2.1	2
6B	0	0	7	2	0	2.2	2
7A	0	0	7	2	0	2.2	2
7B	0	0	7	2	0	2.2	2
8A	0	1	7	1	0	2.0	2
8B	0	1	6	2	0	2.1	2
9A	0	4	5	0	0	1.6	2
9B	0	3	6	0	0	1.7	2
10A	0	2	4	2	0	2.0	2
10B	0	1	6	2	0	2.1	2
11A	0	2	6	1	0	1.9	2
11B	0	2	6	1	0	1.9	2
12A	0	7	2	0	0	1.2	1
12B	0	7	2	0	0	1.2	1
13A	0	5	4	0	0	1.4	1
13B	0	5	3	1	0	1.6	1
14A	0	3	5	0	0	1.6	2
14B	0	2	6	0	0	1.8	2
15A	0	0	8	0	0	2.0	2
15B	0	0	8	0	0	2.0	2
16A	0	0	8	0	0	2.0	2

16B	0	0	7	1	0	2.1	2
17A	1	1	6	0	0	1.6	2
17B	1	5	1	1	0	1.3	1
18A	1	6	1	0	0	1.0	1
18B	2	4	1	1	0	1.1	1
19A	0	5	3	0	0	1.4	1
19B	0	5	3	0	0	1.4	1
20A	0	3	5	0	0	1.6	2
20B	0	2	5	1	0	1.9	2
21A	0	4	3	1	0	1.6	1
21B	0	5	1	1	0	1.4	1
22	0	0	2	0	6	3.5	4
23	1	1	2	3	1	2.3	3
24	1	2	4	1	0	1.6	2
25	NA	NA	NA	NA	NA	NA	NA
26	0	0	3	3	2	2.9	2
27	0	0	3	3	2	2.9	2
28	0	1	0	6	1	2.9	3
29	0	0	3	3	2	2.9	2
30	0	1	2	4	1	2.6	3
31	0	1	1	3	3	3.0	3

Austin Workshop

Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1A	0	3	4	4	0	2.1	2
1B	0	1	1	9	0	2.7	3
2A	1	1	6	3	0	2.0	2
2B	0	1	3	8	0	2.6	3
3A	0	2	6	4	0	2.2	2
3B	0	0	2	10	0	2.8	3
4A	0	3	5	3	0	2.0	2
4B	0	0	0	11	0	3.0	3
5A	0	5	6	1	0	1.7	2
5B	0	0	1	10	0	2.9	3
6A	0	2	6	4	0	2.2	2
6B	0	1	1	9	0	2.7	3
7A	0	6	3	3	0	1.8	1
7B	0	1	3	7	0	2.5	3
8A	2	6	3	1	0	1.3	1
8B	0	3	4	5	0	2.2	3
9A	1	6	3	1	0	1.4	1
9B	0	1	4	6	0	2.5	3
10A	1	5	4	1	0	1.5	1
10B	0	0	2	9	0	2.8	3
11A	2	4	3	2	0	1.5	1

11B	0	0	4	6	0	2.6	3
12A	5	5	1	0	0	0.6	0
12B	0	7	4	0	0	1.4	1
13A	7	4	1	0	0	0.5	0
13B	4	5	3	0	0	0.9	1
14A	5	5	2	0	0	0.8	0
14B	0	4	3	5	0	2.1	3
15A	2	4	4	1	0	1.4	1
15B	0	0	4	8	0	2.7	3
16A	2	6	3	0	0	1.1	1
16B	0	1	9	2	0	2.1	2
17A	4	5	2	0	0	0.8	1
17B	0	5	6	0	0	1.5	2
18A	6	5	1	0	0	0.6	0
18B	1	5	5	0	0	1.4	1
19A	2	4	4	1	0	1.4	1
19B	0	5	6	1	0	1.7	2
20A	4	4	3	1	0	1.1	0
20B	2	2	4	3	0	1.7	2
21A	3	3	2	3	0	1.5	0
21B	1	6	2	3	0	1.6	1
22	0	0	1	3	7	3.5	4
23	0	3	1	6	2	2.6	3

24	3	0	3	5	1	2.1	3
25	0	1	3	5	3	2.8	3
26	0	0	2	4	5	3.3	4
27	0	1	2	5	3	2.9	3
28	0	0	1	4	6	3.5	4
29	0	2	1	5	3	2.8	3
30	0	1	7	2	1	2.3	2
31	0	0	0	2	9	3.8	4

Totals							
Question Number	A (0)	B (1)	C (2)	D (3)	E (4)	Mean	Median
1A	5	7	11	6	0	1.6	2
1B	0	3	11	15	0	2.4	3
2A	1	6	16	6	0	1.9	2
2B	1	2	14	13	0	2.3	2
3A	1	7	16	6	0	1.9	2
3B	0	2	12	15	0	2.4	3
4A	0	8	16	5	0	1.9	2
4B	0	1	11	17	0	2.6	3
5A	3	9	14	4	0	1.6	2
5B	1	3	12	13	0	2.3	3
6A	0	3	22	5	0	2.1	2

6B	0	1	11	17	0	2.6	3
7A	0	9	15	6	0	1.9	2
7B	0	1	16	12	0	2.4	2
8A	5	7	16	2	0	1.5	2
8B	0	4	16	10	0	2.2	2
9A	6	12	10	1	0	1.2	1
9B	2	5	13	9	0	2.0	2
10A	3	10	11	4	0	1.6	2
10B	1	2	11	15	0	2.4	3
11A	4	11	10	4	0	1.5	1
11B	0	4	12	12	0	2.3	2
12A	11	15	3	0	0	0.7	1
12B	1	16	10	2	0	1.4	1
13A	15	10	5	0	0	0.7	0
13B	6	14	8	2	0	1.2	1
14A	10	8	9	2	0	1.1	0
14B	1	7	12	9	0	2.0	2
15A	4	8	15	1	0	1.5	2
15B	0	1	17	11	0	2.3	2
16A	3	12	13	0	0	1.4	2
16B	0	3	23	3	0	2.0	2
17A	9	10	8	1	0	1.0	1
17B	2	12	11	3	0	1.5	1

18A	14	13	2	0	0	0.6	0
18B	5	14	8	1	0	1.2	1
19A	6	12	9	1	0	1.2	1
19B	2	15	11	1	0	1.4	1
20A	8	11	9	1	0	1.1	1
20B	4	7	12	5	0	1.6	2
21A	8	8	8	4	0	1.3	0
21B	3	14	3	7	0	1.5	1
22	0	0	3	10	15	3.4	4
23	2	5	3	16	3	2.4	3
24	4	2	8	12	3	2.3	3
25	0	3	4	10	4	2.7	3
26	0	0	6	13	9	3.1	3
27	0	2	6	15	5	2.8	3
28	0	2	1	17	8	3.1	3
29	1	4	7	10	5	2.5	3
30	0	5	12	9	2	2.3	2
31	0	2	1	11	14	3.3	4

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